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An Account of an Embassy to the Kingdom of Ava, sent by the Governor-general of India, in the Year 1795. *By Michael Symes, Esq. Major in his Majesty's 76th Regiment.* 4to. 2*l*. 2*s*. *Boards.* Nicol. 1800.

THE enterprises of commerce have in no age added a more interesting discovery to our geographical knowledge than the embassy of major Symes now offers. It is not indeed that of a new continent: it is not distinguished by the splendor of conquest, or by the brilliancy of acquired returns, but adds an important link to the geography of the Eastern nations, and, in a commercial view, may prove more valuable than the mines of Peru or Golconda

On the east of the Ganges, the piratical attempts of the inhabitants of the shores of Aracan had attracted the attention of the government of Bengal; and the contests on the north, between the Chinese and some warlike hordes of the mountains, had led to the knowledge of a nation different both from the Hindoos and Chinese; while, on the south, the supply of teak in the river of Pegu, and the unsuccessful attempts to form a commercial connection with its government, had led to little more than the knowledge that a kingdom styled Ava existed. It is now ascertained, that between Cochin-China and Bengal is comprehended a country extending more than 18 degrees of south latitude, divided into the kingdoms of Siam, Pegu, Ava, and Aracan, watered by a river which rises in the mountains of Tartary, near the sources of the Ganges and Burampooter, and inhabited by a generous, spirited, and warlike race. The river has probably a more extensive course than any other yet known, (unless it should be ultimately ascertained that the Niger and the Nile are the same) and is navigable for ships of burthen through a great part of its course. Its embouchure is near the Gulf of Martaban, where it has formed a delta of probably acquired land, a gulf (if we may trust to Gosselin, whose opinions are in general well sup-

ported) beyond which the geographical knowledge of the ancients ſcarcely extended, and which, by the moderns, has been miſtaken for the Gulf of Siam. The whole of the Birman empire, for this we ſhall find to be its preſent deſignation, is apparently fertile, watered by numerous rivers, though probably with few harbours, except where the coaſt recedes from Cape Negrais caſtward, to receive the divided waters from the Delta of the Irrawaddy, and the ſtreams of the Setang, near Martaban. Such is the country which major Symes viſited, and with which he has probably ſucceeded in forming an amicable intercourſe.

The ſituation of Bengal and particularly its marine, which required a ſupply of teak, the oak of India, which the coaſt of Malabar could only, by a tedious navigation, afford, ſuggeſted to lord Teignmouth the propriety of a new attempt, for one had failed, to open a friendly intercourſe with the Birman empire. The judicious and enlightened policy which ſuggeſted this plan, was ably ſeconded by the temper and good ſenſe of major Symes, who has given an excellent account of this kingdom and of his own attempts.

'Of the kingdom of Ava, or the Birman empire, ſo little is known to the European world, that many perſons of liberal education, when the name of the country has been mentioned, were at a loſs on what part of the globe to ſeek for its poſition; and ſome were even unacquainted with the exiſtence of ſuch a nation.

'This obſcurity renders any apology for introducing my work to the public, unneceſſary; and I have only to lament my own inability to do juſtice to ſo important a ſubject. The military profeſſion, in every part of the world, is unpropitious to literary attainments; but in India, where no repoſitories of European learning are to be found, and armies are continually moving over a vaſt region, it can hardly be expected that the ſoldier and the ſcholar ſhould be united. It has been my lot to ſerve in that diſtant country from an early age, until I attained the meridian of life; and it may perhaps ſoften criticiſm that I aſpire not to the ornaments of language, and little aim at a poliſhed ſtructure of ſtyle: I have written my own book; my chief object is to be intelligible, and my ſingle claim, to be believed.' P. vii.

The four kingdoms are now united under a Birman prince, whoſe liberal policy we have had occaſion to commend in our review of the fifth volume of the Aſiatic Reſearches*. The ultimate conqueſts of Alompra, after alternate ſucceſſes and defeats, are well deſcribed in our author's hiſtorical memoir. Even though it is an Indian narrative, we read it with pleaſure and intereſt. Some of the events of this war were injurious to

* See our XXVIIIth Vol. New Arr. p. 382.

the Britiſh character; for our countrymen ſeem to have violated the good faith which has been their diſtinguiſhed boaſt; and ſuch conduct occaſioned their loſs of the eſtabliſhment they had formed at the mouth of the Irrawaddy. Yet various other concurring circumſtances contributed to deprive them of this ſettlement, though theſe, without the connivance of Alompra, would not probably have had any effect. The character of this uſurper or ſucceſsful warrior, for each party will give him a different appellation, is very ably drawn. He ſeems to have combined an undaunted ſpirit with cool policy; to have been cruel in the moment of uncertainty, and to have yielded to more amiable feelings when oppoſition was no more. He appears liberal, judicious, and candid, if we wholly acquit him, as major Symes is inclined to do, of the injuries done to the Engliſh.

The preciſe limits of the Birman empire cannot be aſcertained. The preſent monarch has added Aracan, on the weſt, to his dominions, and the Siameſe have been compelled to yield the ſea-ports of Tavoy and Mergui, but they retain their independence in the internal parts, and have for their eaſtern neighbours the Cochin-Chineſe. On the north and the north-eaſt, the Birman territory is leſs accurately limited; and the province of Yunan, connected occaſionally with the Birman monarch, preſerves a doubtful and precarious independence, under the nominal dominion of China. Did not the immenſe force of the Engliſh empire in India preſs on the weſtern frontier of the Birman kingdom, it would ſoon be a formidable rival to China. At preſent, ſhould the Engliſh, reſenting the ſuſpicious and inſulting politics of the court of Pekin, chooſe to join the monarch of Ava, by their united powers they might dictate their own terms of commerce and alliance. With a reſpectable force in Oude on the north-weſt, and a firm connexion with the Birman empire on the eaſt, the Engliſh intereſts in India would be invulnerable.

'The Birmans, under their preſent monarch, are certainly riſing faſt in the ſcale of Oriental nations; and, it is to be hoped, that a long reſpite from foreign wars, will give them leiſure to improve their natural advantages. Knowledge increaſes with commerce; and as they are not ſhackled by any prejudices of caſts, reſtricted to hereditary occupations, or forbidden from participating with ſtrangers in every ſocial bond, their advancement will, in all probability, be rapid. At preſent, ſo far from being in a ſtate of intellectual darkneſs, although they have not explored the depths of ſcience, or reached to excellence in the finer arts, they yet have an undeniable claim to the character of a civilized, and well inſtructed people. Their laws are wiſe, and pregnant with ſound morality; their police is better regulated than in moſt European countries;

their natural disposition is friendly, and hospitable to strangers; and their manners rather expressive of manly candour, than courteous dissimulation: the gradations of rank, and the respect due to station, are maintained with a scrupulosity which never relaxes. A knowledge of letters is so widely diffused, that there are no mechanics, few of the peasantry, or even the common watermen (usually the most illiterate class) who cannot read and write in the vulgar tongue. Few, however, are versed in the more erudite volumes of science, which containing many Shanscrit terms, and often written in the Pali text, are (like the Hindoo Shasters) above the comprehension of the multitude; but the feudal system, which cherishes ignorance, and renders man the property of man, still operates as a check to civilization and improvement. This is a bar which gradually weakens, as their acquaintance with the customs and manners of other nations extends; and unless the rage of civil discord be again excited, or some foreign power impose an alien yoke, the Birmans bid fair to be a prosperous, wealthy, and enlightened people.' P. 122.

Major Symes embarked at Calcutta, and visited the Andamans, which connect the chain of islands from Cape Negrais to Atcheen Head, the northern peninsula of Sumatra, where it is separated from the peninsula of Malacca, the southern continuation of the kingdom of Siam. This chain of islands once certainly formed a part of the continent, but they were separated from it by the encroaching ocean; for, as usual, on the west, we find the great western mountains, those which divide the kingdom of Aracan from that of Birman, close on the sea. Of the Andaman islands we have had occasion to give some account, in our review of the Asiatic Researches. The barbarism of the inhabitants is scarcely equaled, even on the gloomy coasts of New Zealand; and the small European garrison or colony, stationed for the purpose of assisting the crews of the ships which fly to its harbour as a shelter during the continuance of the north-eastern monsoon, will scarcely have sufficient influence to reclaim or civilise them.

'The Andamaners are not more favoured in the conformation of their bodies, than in the endowments of their mind. In stature, they seldom exceed five feet; their limbs are disproportionably slender, their bellies protuberant, with high shoulders and large heads; and, strange to find in this part of the world, they are a degenerate race of negroes*, with woolly hair, flat noses, and thick

'* It is a matter of much curiosity to discover the origin of a race of people so widely differing, not only from all the inhabitants of that vast continent in the bosom of which the island of Andaman is embayed, but also from the natives of the Nicobar islands, which are immediately contiguous to it. Hitherto, the inquiries of travellers seem to have produced no satisfactory conclusion: some have supposed that a Portuguese ship, early in the 16th century,

lips; their eyes are ſmall and red, their ſkin of a deep ſooty black, whilſt their countenances exhibit the extreme of wretchedneſs: a horrid mixture of famine and ferocity. They go quite naked, and are inſenſible of any ſhame from expoſure. Two young women, allured by the temptation of fiſh, were ſecured, and brought on board a ſhip at anchor in the harbour: the captain treated them with great humanity; they ſoon got rid of all fear of violence, except what might be offered to their chaſtity, which they guarded with unremitting vigilance: although they had a ſmall apartment allotted to themſelves, and had no real cauſe for apprehenſion, one always watched whilſt the other ſlept; they ſuffered clothes to be put on, but took them off again as ſoon as opportunity offered, and threw them away as uſeleſs incumbrances. When their fears were over they became cheerful, chattered with freedom, and were inexpreſſibly diverted at the ſight of their own perſons in a mirror; they were fond of ſinging, ſometimes in melancholy recitative, at others in a lively key; and often danced about the deck with great agility, flapping their poſteriors with the back of their heel. Wine and ſpirituous liquors were diſagreeable to them; no food ſeemed ſo palatable as fiſh, rice, and ſugar. In a few weeks, having recovered ſtrength and become fat, from the more than half-famiſhed ſtate in which they were brought on board, they began to think confinement irkſome, and longed to regain their native freedom. In the middle of the night, when all but the watchman were aſleep, they paſſed in ſilence through the captain's cabin, jumped out of the ſtern windows into the ſea, and ſwam to an iſland half a mile diſtant, where it was in vain to purſue them, had there been any ſuch intention; but the object was to retain them by kindneſs, not by compulſion, an attempt that has failed on every trial. Hunger may (and theſe inſtances are rare) induce them to put themſelves in the power of ſtrangers; but the moment that want is ſatisfied, nothing ſhort of coercion can prevent them from returning to a way of life, more congenial to their ſavage nature. The few implements they uſe are of the rudeſt texture; a bow from four to five feet long, the ſtring made of the fibre of a tree, or a ſlip of bamboo, with arrows of reed, headed with fiſh bone, or wood hardened in the fire, is their principal weapon. Beſides this, they carry a ſpear of heavy wood ſharply pointed, and a ſhield made of bark, to defend

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laden with ſlaves from Moſambique, had been caſt on theſe ſhores, and that the preſent Andamaners are the deſcendants of ſuch as eſcaped drowning. This conjecture is proved to be groſsly erroneous, from the account given by the two Mahommedan travellers long anterior to the navigation of thoſe ſeas by Europeans. The Arabians, however, who ſailed on the Indian Ocean ſo early as the 7th century, and who not only explored the continent of India as far as the Chineſe ſea, but likewiſe gained a knowledge of moſt of the eaſtern iſlands, might, by an accident ſimilar to that which has been aſcribed to the [illegible] veſſel, have peopled Andaman with its preſent negro race. It deſerves remark, that on the continent of India extra Gangem, figures of Boodh, or Budhoo, the Gaudma of the Birmans and Siameſe, are often ſeen with the characteriſtic hair and features of the negro.'

themselves from the assaults of their enemies; for even these poor wretches have rights to assert, and dignities to maintain: necessity has taught them an expert management of their arms, on which they rely for subsistence: happily for them, their numerous bays and creeks abound with fish, which they shoot and spear with surprising dexterity. They are said also to use a small hand net, made of the filaments of bark; the fish when caught is put into a wicker basket, which they carry on their backs. Having kindled a fire, they throw the food on the coals, and devour it half broiled. A few diminutive swine are to be found in the skirts of the forests, and among the mangrove thickets in the low grounds; but these are very scarce, and are probably the progeny of a stock left by former navigators. When a native has the good fortune to slay one, he carefully preserves the skull and teeth to ornament his hut. They cross the bays, and go to fish either in canoes formed of a hollow tree, or on rafts of bamboo, which they direct by paddles. Their habitations display little more ingenuity than the dens of wild beasts; four sticks stuck in the ground, are bound together at the top, and fastened transversely by others, to which branches of trees are suspended; an opening is left on one side, just large enough to admit of entrance: leaves compose their bed. Being much incommoded by insects, their first occupation in a morning is to plaister their bodies all over with mud, which, hardening in the sun, forms an impenetrable armour; they paint their woolly heads with red ochre and water: when thus completely dressed, a more hideous appearance is not to be found in human form.' P. 130.

We may just observe, that there are so many traces of a negro or a black race in the earliest legends of the east, that we need not seek for the origin of the Andamaners in any accident. They were perhaps the aborigines, from whom the present Malays are descended, and must not be confounded, as by Volney, with the negro on the coast of Guinea, whose complexion is his slightest distinction. Their language is different from any spoken in India; their songs are wildly melodious, and their gesticulation, while singing, violent. In short, those who wish to survey the varied traits of human nature, and men in the earliest stage of civilisation, should contemplate this very spirited and excellent account of the Andamaners.

Major Symes landed at Rangoon, a town conveniently situated for commerce, at the conflux of the eastern branch of the Irrawaddy, and the Siriam river, on which Pegu is built. The first reception was not cordial. The liberality of the Birman government had attracted many strangers, who feared that the English might acquire more influence than they chose to resign, or communicate more knowledge of commerce to the Birmans than would be consistent with their interest. The major, whose determined spirit was joined with a calm con-

ciliating temper, soon obtained all that he wished, and proceeded up the Siriam river to Pegu, to witness the annual festival at the great temple. The country, when first approached, and in the progress so far as Pegu, resembled that of Bengal, but the Siriam river was less dangerous for the navigators than the Ganges; and though the embanked divisions of some plantations of rice were conspicuous, the country had not, in point of population or cultivation, recovered from the ravages of war.

The remains of Pegu and its temple we have noticed in our review of the Asiatic Researches, where both are described in the words of the volume before us. The amusements, at the festival, are wrestling, boxing, dramatic entertainments, and the sportive game of scattering water on every passenger, which is conducted with some delicacy, in the apartments of the viceroy. Dramatic entertainments, which seem to vie in accurate representation with those of Calidas, close the scene; and the Birman actors appear to excel in pantomimic gesticulations. On his return, the major had still cause to regret the ravages of war; and, in a sporting excursion, he attracted the attention and excited the resentment of a herd of buffaloes, one of whom pursued him, apparently from a dislike of the red colour of his uniform, which he threw off and escaped.

Of Rangoon, to which our author returned, he gives a general description, particularly of the great temple, the Shoedagon, and of the rhahaans, or priests, of whose piety and general good conduct his account is favorable. In the civil or religious departments of Ava there are not, he observes, any concealments. Of Seredaw, the chief of the rhahaans, he had formed an advantageous opinion, but was disappointed on conversing with him, as he discovered the little vanity of a weak mind. Of a singular race, the Carayners, we shall select his account.

'From this reverend father I received much useful information; he told me of a singular description of people called Carayners, or Carianers, that inhabit different parts of the country, particularly the western provinces of Dalla and Bassien, several societies of whom also dwell in the districts adjacent to Rangoon. He represented them as a simple, innocent race, speaking a language distinct from that of the Birmans, and entertaining rude notions of religion. They lead quite a pastoral life, and are the most industrious subjects of the state; their villages form a select community, from which they exclude all other sects, and never reside in a city, intermingle, or marry with strangers. They profess, and strictly observe, universal peace, not engaging in war, or taking part in contests for dominion, a system that necessarily places them in a state of subjection

to the ruling power of the day. Agriculture, the care of cattle, and rearing poultry, is almost their only occupation. A great part of the provisions used in the country is raised by the Carianers, and they particularly excel in gardening. They have of late years been heavily taxed and oppressed by the great Birman landholders, in consequence of which numbers have withdrawn into the mountains of Arracan. They have traditional maxims of jurisprudence for their internal government, but are without any written laws: custom, with them, constitutes the law. Some learn to speak the Birman tongue, and a few can read and write it imperfectly. They are timorous, honest, mild in their manners, and exceedingly hospitable to strangers.' P. 207.

The Carayners are not to be found higher up than Promè. The population of Rangoon is estimated at 30,000 persons; for, as the liberality or policy of the emperor tolerates with equal kindness every religion, and receives the outcasts from every nation, the motley multitude must necessarily be numerous. The religion of Birman is that of Budha; but the people respect the bramins, and think them greatly superior to their own rhahaans. As teak is in plenty on the banks of the river, down which it may be easily conveyed, ship-building flourishes at Rangoon; and the situation on a flat shore, where the tide rises twenty feet, renders the construction of docks very easy.

On the 29th of May our author embarked for Ummerapoora in a convenient barge. The narrative of the voyage contains no very remarkable events. The weather, which was at Rangoon very warm, became cooler on the river; but the thermometer fell from 98° only to 90. The river in general passed through a level country, to which it added greatly on one side, gaining as usual on the more abrupt bank, resembling, in this respect, the Ganges and Burampooter. The Birman boatmen are hardy and active; indeed they very little resemble other Asiatics, whose indolence is well known, and whose greatest exertions are comparatively trifling. Nearly about 18° 50', the latitude of Promè, a place celebrated for numerous sieges in the military history of the Birman empire, the country rises in hills, some of which appear conical; and, after a journey of two days to the north, the travellers visited the impression of the foot of Gaudma (Budha). This, though styled a foot, is rather a parallelogram, rounded at the part supposed to represent the heel, on which two serpents are figured. Some rude ornaments offer the semblance of toes; but the most remarkable circumstance is, that the impression is on a granite, and the middle of the stone is covered by hieroglyphics, which do not appear to resemble, in any striking manner, those of Egypt. We in no part recognise the ibis; but the elephant is occasionally

conspicuous: a great number of these figures are representations of things inanimate The tradition is, that Gaudma placed one foot on Ceylon, and the other on the continent; but it must be remembered, that the foot on Ceylon is styled that of Adam, the 'first of men;' it is visited, however, with great veneration, and, from the meaning of Adam, this appellation may have been one of the titles of Gaudma,

'Loonghee, or Great Cable, takes its name from the following circumstance: a curious ligament of stone unites a pointed rock, which rises in the middle of the stream, with the opposite bank; it has the appearance of a petrified cable, and the natives relate, that one hundred years ago a large rope, floating down the river, ceased its course at this place, and that one end adhering to the rock, and the other to the bank, the rope was changed into stone. They also say that the opposite island formerly constituted a part of one situated fifteen miles higher up, but was severed from it by an earthquake, and carried down to the place where it now rests. The quality which the waters of the Irrawaddy possess of changing wood into stone, of which we afterwards saw innumerable instances, renders the transmutation of the cable by no means an impossible circumstance. The Birmans, however, are deeply tainted with that credulity which ignorance is ever disposed to pay to tales of fiction, and to miraculous events.

'Whether removed by an extraordinary convulsion of nature, and by a still more extraordinary transportation, or whether encircled by the river from the disposition that all large streams flowing through a level country have to change their channel; whatever may have been the cause, the island now constitutes a principal object in one of the finest sylvan scenes I ever beheld. From a temple above Loonghee, that stands by the river side, on a commanding cliff whose summit overhangs its base, the eye is gratified by a most delightful combination of natural beauties: a fine sheet of water three miles in breadth, broken by an island about a mile long and half a mile wide, covered with trees of luxuriant foliage; eminences on the opposite shore, that rise from gently swelling grounds clothed in wood, to brown and rugged mountains, which receding in an oblique direction, leave to the view a long and level plain: these altogether form a landscape which I never saw equalled, and, perhaps, is not to be excelled. How much I regretted that my draftsman, though skilful in copying figures and making botanical drawings, was unacquainted with landscape painting and perspective, and that not one of ourselves possessed any knowledge of that delightful art. Had Mr. Daniel, in his Oriental Travels, visited this part of the world, the view from Loonghee would have stood conspicuous among those faithful and excellent representations by which he has locally introduced India into England, and familiarised the European eye to the rich scenery of the east.' P. 251.

As our travellers advanced, the country assumed a more rocky appearance, and was more barren. The stone was chiefly siliceous, and petrified wood, composed of different laminæ, was brought to them, which however may be only a peculiar form of quartz. In this neighbourhood were the wells of petroleum, which supply the whole empire and a great part of India with this useful production. Fertility soon returned; and major Symes approached on the west the great chain of mountains which separate Aracan from the Birman empire. In this part the tea plant is found, but of an inferior quality to that of China, and used only as a pickle.

In latitude 21° 32′ the Irrawaddy receives, from the north-west, the streams of the Keenduen, which, at the junction, is nearly a mile wide. The war boats which met major Symes from Ummera-poora were rowed by Cassayers, probably from the country which the ancients called Cathay, and which we have supposed to mean China. The character of the features is softer, and resembles more the Bengal countenance. These people, according to the eastern system, were brought from their native country while young, when, as it is justly observed, the human race will assimilate to any soil; but our author prudently avoided asking them any questions, as a suspicious jealousy still seemed to attend all his motions. At Summei-kioum, not far distant from Ava, is the manufactory of salt-petre and gunpowder, which cannot be exported under any plea, and of which the smallest quantity cannot be sold without a special licence for that purpose. The king is also proprietor of all the elephants in his dominions, and is said to possess 6000. The privilege to ride on or keep one of these animals is granted only to men of the very first rank and consequence.

On the approach to the capital, towns and villages became more frequent; and the river, influenced by the rains in the higher regions, began to swell, though all around was dry and parched. Either from superstition or some political reason, the present emperor had removed the seat of empire from Ava farther to the north and east. As the houses are chiefly of wood, they are soon transported; and the ancient capital is almost deserted.

'In the morning I took a hasty view of Aungwa, or Ava; it is divided into an upper and lower city, both of which are fortified; the lower, which is the most extensive, I judged to be about four miles in circumference; it is protected by a wall thirty feet high, at the foot of which there is a deep and broad fosse. The communication between the fort and the country is over a mound of earth crossing the ditch, that supports a causeway; an embankment of earth in the inside sustains the wall; the upper or smaller fort, which may be called the citadel, and does not exceed a mile in cir-

cuit, was much stronger, and more compact than the lower, but neither the upper nor the lower had a ditch on the side of the river. The walls are now mouldering into decay; ivy clings to the sides, and bushes, suffered to grow at the bottom, undermine the foundation, and have already caused large chasms in the different faces of the fort. The materials of the houses, consisting chiefly of wood, had, on the first order for removing, been transported to the new city of Ummerapoora: but the ground, unless where it is covered with bushes, or rank grass, still retains traces of former buildings and streets. The lines of the royal palace, of the lotoo, or grand council hall, the apartments of the women, and the spot on which the piasath, or imperial spire, had stood, were pointed out to us by our guide. Clumps of bamboo, a few plantain trees, and tall thorns, occupy the greater part of the area of this lately flourishing capital. We observed two dwelling houses of brick and mortar, the roofs of which had fallen in; these, our guide said, had belonged to colars, or foreigners: on entering one, we found it inhabited only by bats, which flew in our faces, whilst our sense of smelling was offended by their filth, and by the noisome mildew that hung upon the walls. Numerous temples, on which the Birmans never lay sacrilegious hands, were dilapidating by time. It is impossible to draw a more striking picture of desolation and ruin.

'Among the religious buildings within the fort, one named shoegunga praw, no ways distinguished for size or splendour, was in former times held peculiarly sacred, and is still reverenced above the rest. At the present day, when an officer of rank is about to enter on a great public trust, or a new commander is appointed to the army, the oath of allegiance is administered in this temple with great solemnity, a breach of which is considered the most heinous crime a Birman can be guilty of, and is invariably punished by the severest tortures. How shoegunga obtained this distinction I was not able to learn. We were informed that a temple of much greater magnitude, named logatherpoo praw, stood a short distance to the westward of the fort, in which was a colossal figure of Gaudma, formed out of a solid block of marble. This temple and image we had a better opportunity of viewing on our return. P. 279.

As we find that the whole of this work will detain us too long, we shall resume our account of it in another article.

(To be continued.)

The Asiatic Annual Register; or, A View of the History of Hindustan, and of the Politics, Commerce, and Literature of Asia, for the Year 1799. *8vo.* 12s. *Boards.* Debrett.

HISTORY scarcely presents an example of a dependence so vast, so distant, and so disproportioned to the parent state,

as the British possessions in India. Rome, though she stood alone, and possessed almost the whole of the known world, was yet, when in the zenith of her power, not merely a single city on the Tiber, but the capital of Italy; and the appellation and privileges of a Roman citizen were diffused through every conquered state with a politic liberality. Even however at that time, the extent of the empire did not greatly exceed that of the present possessions of Britain in the East; and in modern times, the limited and precarious possessions of Holland in the Eastern Islands, the scattered dependencies of Spain in South America, and the very partially cultivated parts of North America, once under our dominion, bear a very inconsiderable proportion to the smiling cultivated plains of Asia, the *depôt* of the riches of the world. India has always accumulated whatever was rich and valuable, for the temperate and patient Hindoo is contented with little, and seeks not the productions of three quarters of the world for his humble meal, while his industry renders every foreign nation a tributary, and even the immense sums, drawn by allies or conquerors, seem scarcely to have impoverished this happy soil. The ravages of war may, in a moment, annihilate the property of the Indian, or inclement seasons produce a temporary scarcity; but industrious patience soon supplies the defect; and, through a great part of the peninsula at least, war in all probability will not soon again disturb the quiet inhabitants. In this state, the immense importance of India to Britain must render whatever relates to it valuable; and, to those who have returned from it after a residence of some years in their different departments, it will be very interesting. To contemplate the rising fortunes of their associates, the increasing influence of the country, and the growing prosperity of the whole, will be highly pleasing; and it will be even a melancholy satisfaction to be relieved from suspense by intelligence respecting the fate of their friends, when they have reached that bourne from which no traveller returns.

In another view an annual collection of this kind will be valuable. Indian literature has lately engaged the attention of Europeans; and they have traced, from the records of the East, much of the mythology, and somewhat of the science of early Europe. Our information of this kind will probably not lessen; and though five volumes of Researches have been published, which may soon be followed by others, much will remain for humbler followers. Many who have returned from India pursue the studies which interested them in that country, and those who did not presume to offer their opinions at large in the Researches, may probably give hints, in a more concise form, in another publication. If, as has been reported, this

metropolis should become the centre of the knowledge of Hindostan in the West, by the establishment of an oriental library, a work of this kind will neither want patrons nor assistants.

This volume, like its prototypes, the English Annual Registers, collects into a focus the transactions, both military and civil, which occurred in India during the year, adding the state papers, and an account of the proceedings in the British parliament as well as in the *parliament of India*, the India-house. The biographical sketches, which follow, relate chiefly to persons who were connected with India, and who acted a distinguished part on that scene. The miscellaneous tracts include what was once designed for a separate head, viz. the accounts of voyages and travels; and contain various circumstances generally interesting, but particularly so to orientalists. The poetry and account of books are equally appropriated. The editors have followed the example of the New Annual Register, by prefixing a history of India, which they intended to have brought down in this volume to the year 1708, the period of the union of the old and new East-India company; but, from the variety of new and important matter, they had room only for so much of the history as reaches to 1603. Such is the general plan, which experience has sanctioned by the support that two Annual Registers in England have received. It remains only that we notice shortly its execution.

The History of Hindostan is written with neatness, and, in general, with accuracy; but the historian differs, without reason, from Sir William Jones (who supposes India to have been peopled from Persia), and adopts the opinion of Mr. Orme, that the Hindoos were aborigines of the country. For this we could have wished that he had given some better reasons than those which he has borrowed from the historiographer of the company, and that he had noticed what captain Wilford has observed in the fifth volume of the Researches (mentioned in our present volume, p. 187), that the Bramins themselves confess a more western origin, and say that they descended into Hindostan through the plains of Haridwar. The early history of Hindostan is gloomy and distressing; intestine commotions, conquests, massacres, &c. arise in painful succession; and the æra at which this part closes, when the British flag first appeared in the Indian seas, is we trust an epoch of returning happiness and peace.

The chronicle is a miscellaneous detail of events; and in the state papers we find every material document, with a very valuable collection of those which relate to the conduct of the sultan Tippoo, and his wild impolitic connection with the French republic. No national transaction will reflect more honour on this country and its ministers than their proceedings in the Mysorean war. Their calmness and caution in the

previous negotiations were not less striking than their steady and spirited conduct in the military operations.

Among the biographical characters and anecdotes are first those of the late sultan of Mysore, collected from the account of one of his officers: a part of this we shall copy.

'Tippoo Sultaun is (was) about 43 years of age: his constitution is much impaired; he is subject to two disorders, the frequent return of which obliges him to take medicine daily.

'He is from five feet eight to nine inches high; is now rather inclined to fat, although, a few years since, he was very thin: his face is round, with large full eyes; and there is much animation and fire in his countenance: he wears whiskers, but no beard: he is very active, and sometimes takes long walks.

'He has eleven children, of whom only two are in marriage; the elder, a girl of seven years; the younger, a boy of four years.

'The eldest of his natural children is a girl of seventeen years; the second, a son of fifteen years—He is a great favourite, and accompanies his father upon all occasions—his name is Gulaum Heyder. Another son, Abdul Khalic, is ten years old.

'His disposition is naturally cruel: his temper is passionate and revengeful; and he is prone to be abusive; and his words are false and hypocritical, as suit his purposes.

'His policy, thus far differing widely from his father, has been ruinous to his revenues, as well as hurtful to his government. He professes himself Naib to one of the twelve prophets, who, the Mahommedans believe, are yet to come; and he persecutes all other casts, forcing numbers to become mussulmen. He is jealous of, and prejudiced against, his father's favourites; most of whom he has removed from their offices, giving to some lesser appointments. When compared to his father, his understanding and judgment are supposed to be inferior: he is esteemed as good a soldier, but a less skilful general; and he is wanting in that great resource, which his father so eminently displayed in all cases of danger. His father discriminated merit, rewarded it liberally, and punished guilt with the utmost rigour of a despot: he gives little encouragement or reward; and he punishes more from the influence of passion and prejudice than from any attention to justice. His father was assiduous in gaining the attachment of his army: he is rather negligent of it; and being very parsimonious, he is led to impose upon his troops, whenever opportunities offer: he sometimes retains their pay for several months, and has his own sircars to lend his money at an enormous interest, which is stopped when the pay is issued.' P. I.

'He rises sometimes at seven o'clock, but more commonly at eight or nine in the morning; on halting days, washes and takes medicine; the barber then begins to shave him, during which the head aukbar neoise, or news-writer, comes in with the letters that

have arrived by the tappauls, and relates the news of the different countries as he has received it. The officer commanding his guard then comes in, and makes his report; after which the adjutants of corps come, and make a report of their reſpective corps. About twelve o'clock he goes to dinner, which is over in about an hour: he then holds his durbar, and tranſacts all buſineſs, civil and military, until five o'clock: he then gives out the parole, which he takes from the planets, or ſigns of the zodiac, writing it himſelf in a book, which is depoſited with his own guard, where the adjutant-general (for each cutcherry has an adjutant-general) comes and takes it; after which he lays [*lies*] down and ſleeps about an hour, riſes, and makes his ſecond meal: the mounchies, or ſecretaries, are then called in; they read the letters that have been received during the day, and he gives his orders for anſwering them:—all this done, and the letters prepared for diſpatch, about two or three in the morning he goes to reſt. On marching days, where there is no immediate exigency, the army ſeldom moves before eight o'clock, after Tippoo has taken his breakfaſt: he goes in his palankeen, on the march; and if any thing particular occurs, he immediately mounts his horſe. The order of march is varied according to circumſtances; during his late war againſt the Mahrattas, as they were greatly ſuperior to him in cavalry, his infantry marched in four columns,

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thus, || || with the cavalry and baggage in the centre: he incamps
||

in a ſquare; his infantry and guns occupying the four faces—the cavalry within the ſquare; each face has an open ſtreet in its centre, with a buzzar. A kouſhoun forms the picquet of the front face, and is advanced from twelve to fifteen hundred paces; a riſſalla is advanced from it, about five hundred paces; and on the march all theſe picquets form the advance and rear guards, and flanking guards to the columns. The infantry are diſencumbered of their baggage on the march, bullocks being allowed by the circar for carrying it.' P. 4.

The ſummary of Tippoo's character, and the contraſt between him and Hyder Ali, drawn by the editor, are comprehenſive and maſterly, but too long for an extract.

The life of Behader Shah, tranſlated from the Perſian, is taken from the Aſiatic Miſcellany. He was the ſon, and, after ſome conteſts, the ſucceſſor of Aureng-Zebe. The life of Aſof Shah and Ahmed Shah are taken from the ſame collection, and tranſlated by Mr. Vanſittart. Ahmed-Shah was the founder of the Abdally family; and Zemaun Shah, his deſcendant, the moſt formidable enemy of the Engliſh in India, poſſeſſes the whole of the country between the Caſpian Sea and

the Indus. His united antagonists are the Seiks (sometimes called Sicques), the Mahrattas, and the English; but the Persian horse are almost irresistible, and the Indian allies of England are not always to be trusted. The death of Tippoo will repress the aspiring genius of Zemaun, and perhaps he will be most effectually checked, as he has heretofore been, by finding him employment at home.

The account of the late governor Holwell seems to be an original communication. It is an able, and we believe a faithful biographical narrative. The character we shall select.

'Such is the history of this amiable, excellent, and honourable man, who, after an active and useful course of thirty years employed in various and important duties, was permitted, for a still longer period, to continue in the exercise of private virtue, and the enjoyment of dignified repose. His mind was stored with general knowledge; his understanding was at once sagacious and comprehensive; while his imagination gave a lively and pleasing colour to all he knew, and every thing he said: a taste for elegant literature, and the possession of elegant accomplishment completed his intellectual qualifications. There was a superior urbanity in his manners, which did not proceed more from the habits of his life, than the benevolence of his heart: so that, while his demeanor assimilated him to the highest station, it rendered him eminently pleasing to every subordinate rank of social life. In short, nature had written gentleman with so fair an hand in every lineament of his countenance, that it infused into all he did the graceful decorum of that character. His honour riches could not corrupt; his temper the world did not sour; his benevolence age had not contracted. At the advanced period of fourscore and eight years, his nature was still generous, humane, and indulgent:—While a lively spirit and incomparable pleasantry, which served to illuminate, rather than invade, the dignity of his age, continued to chear himself, and delight all around him, to the close of his venerable life.' P. 30.

Mr. Boyd's life is extracted from his miscellaneous works. 'The complete proof of the fact that Mr. Hugh Boyd was the real author of the celebrated Letters of Junius' is, however, omitted. We may resume the subject on examining the work from which these anecdotes are taken.

A sketch of the life of Sir William Jones follows, on which we forbear to enlarge, as there is reason to expect a complete account of this able and excellent man from his successor in the Asiatic Society. We have reason to believe that such a work is in some forwardness.

A well-written life of lieutenant-colonel Montague follows, and from it we shall extract an anecdote of some curiosity, which reflects high honour on lord Cornwallis.

'The following conversation took place between the deputy adjutant-general and major Montagu, as the latter passed head-quarters on his march: "Lord Cornwallis has it in contemplation to give col. Smith the command of the artillery to be employed against Severn-droog, and he wishes to know if that circumstance will be any impediment to your exertions?" The major replied, "That he did not expect to take the command; that his only wish was to be employed; and that his lordship might rely on his utmost exertions for the public service under col. Smith." The deputy adjutant-general did not think that answer sufficiently explicit; and said, "Lord Cornwallis wished to know, whether major Montagu could act with more effect when independent of col. Smith, than when under his command?" The major answered, "That he could certainly carry a plan of his own into execution in the same time that it would require to suggest and explain it to another." The deputy adjutant-general, therefore, concluding that major Montagu's real opinion was, that he should prefer to conduct the business by himself, informed him, that his lordship was disposed to give col. Smith an opportunity of knocking down the walls of the place where he had been so long confined in a former war; but as it might be attended with some risque to the service, he was at length determined to appoint major Montagu to command and conduct the artillery against that important place, as the capture of it was absolutely necessary to the further progress of the campaign.' P. 66.

The lives of lieutenant-colonel Hartley and Mr. Lambert conclude this part of the volume, and, like the former, are written with ability.

In the miscellaneous tracts, curiosity is preferred to novelty, and importance to a temporary celebrity. In this department, we have received amusement and instruction; and we shall shortly notice the different parts of which it is composed. The first is the journal of an embassy from the government of Madras to the king of Candy in Ceylon, in 1782, by the late Mr. Boyd. It is extracted from his miscellaneous works lately published, and presents an advantageous specimen of his ability, spirit, and perseverance. The journal unites perspicuity with conciseness, and is an excellent specimen of the proper style in which such works should be written—a style that combines the familiarity and pleasantry of conversation with description, and gives to the journal an air both of originality and interest.

Mr. Motte's narrative of his journey to the diamond mines in the province of Orissa, undertaken by the order of lord Clive, in 1766, follows. It contains a good account of that province and its inhabitants, but offers nothing that we can conveniently extract. Mr. Forster's account of Cashmire,

the next miscellaneous tract, we have already noticed; and the historical account of Candy, from Mr. Boyd's works, will again occur. Some part of the natural history of Ceylon, and a description of the manners of the Cingalese, are contained in the account.

The tract which follows is apparently original in this country. It is entitled 'Illustrations of some institutions of the Mahratta people,' by William Henry Tone, esq. commanding a regiment of infantry in the service of the peshwa. It is an interesting account of a singular race, from which we shall offer a few extracts.

'Gibbon, in his admirable History of the Decline and Fall of the Roman Empire, in speaking of the Tartars, observes, that a pastoral people are, above all others, the most inclined and best calculated for war. This remark has both truth and novelty to recommend it; and may be farther confirmed by being applied to the Mahrattas, a people whose occupations are partly rural. The three great tribes that compose the Mahratta cast are, the koonby, or farmer; the dungur, or shepherd; and the cowla, or cowherd. To this original cause, perhaps, may be ascribed that great simplicity of manners which distinguishes the Mahratta people. Homer mentions princesses going in person to the fountains to wash their household linen. I can affirm having seen the daughter of a prince (able to bring an army into the field much larger than the whole Greek confederacy) making bread with her own hands, and otherwise employed in the ordinary business of domestic housewifery. I have seen one of the most powerful chiefs of the empire, after a day of action, assist in kindling a fire to keep himself warm during the night, and sitting on the ground on a spread saddle-cloth, dictating to his secretaries, and otherwise discharging the political duties of his station. This primæval plainness operates upon the whole people. There is no distinction of sentiment to be discerned: the prince and his domestic think exactly in the same way, and express themselves in the same terms. There appears but one level of character, without any mixture of ardour or enthusiasm; a circumstance the more surprising, considering the great exploits they have achieved. But their simplicity of manners, uncorrupted by success, their courtesy to strangers, their unaffected politeness and easiness of access, must render them dear to every person that has had a commerce with them. Such a character, when contrasted with the insidiousness of the brâhman, and the haughtiness of the mussulman, rises as superior to them, as candour and plainness are to duplicity and deceit, or real greatness to barbarous ostentation.' P. 126.

'It has already been observed, that, a very few years back, the Mahratta name, as of a people, was unknown, notwithstanding

their present importance even in the scale of European politics. Guthrie, in his grammar, published in the year 1764, thus describes their geographical situation: "The Mahrattas," says he, "are a kind of mercenaries, inhabiting the mountains between India and Persia." The very reverse of this is the case: the Mahrattas are a southern people; their original country is the provinces of Candeish and Baglana, in the Deccan, extending towards the north-west, as far as Guzurat and the river Nerbudda. Here commence the people called the Gracias and Beels; and you will scarcely ever see an original Mahratta a resident farther north. To the west, their country extends along the sea-coast, from Surat to Kanara, forming that narrow strip of land called the Kokan. On the south, Tippoo's dominions form the boundary, whose original inhabitants are of the Telingana cast. The Nizam's territories form the eastern frontier, peopled also by the Telinganas, an entirely different race, both in language and character. The original Mahratta state is comprised within the above-mentioned boundaries; a country of great natural strength, interspersed with mountains and defiles, all of which are defended by fortresses, that are reserved as depots for treasure, or as retreats in the event of ill success or defeat. Perhaps no country on earth is better calculated for the purposes of defensive war; so that, whatever be the fortune of the Mahrattas in the field, we may safely pronounce, that in their own country they will always be impregnable. I have counted, in a day's march through Candeish, nearly twenty fortresses, all in sight, in different directions: Chandore, Unky, Tunky, Saler Rouler, Nassick Trimmuc, Golna, and Mongy Tongy, are all places of this description. A country so strongly situated is unconquerable; and of this truth the emperor Aurungzebe, who made some attempts to subjugate it, appeared latterly to be convinced; for, when acting in the Deccan, in the utmost plenitude of his power, he thought it more prudent to submit to the depredations of Sevajee, the great founder of the Mahratta empire, than attempt the pursuit, through a mountainous country, of a fugitive army, that he might possibly disperse, but could never defeat. Yet these were the people, then apparently inconsiderable, that were destined by Providence to overturn the empire he was labouring to extend; who, issuing from their mountains and vallies, have, in less than a century, levelled to its base the whole fabric of Mahommedan greatness, and erected for themselves an independent government, on the ruins of an empire of seven hundred years' duration:—perhaps such a sudden accession of dominion, from so obscure an origin, is without a parallel in the annals of mankind. About thirty-five years ago, the Mahrattas were strong enough to contend with the Mussulmans for the supreme dominion of Hindustan. At the famous battle of Panniput, the collective strength of both parties contested for the empire. The Mahrattas were defeated, but they were neither dispersed nor subdued. Their steady policy moving progressively to its grand object of universal domi-

nation, was not to be diverted from its course by a single overthrow; but by the united force of victory and intrigue, they have annihilated the overgrown government of the emperors, already prepared for the event by its own extent, its distractions, and its vices.' P. 128.

The account of Malabar, translated by Mr. Anderson, from Ferishta's General History, is extracted from the Asiatic Miscellany, and is not peculiarly interesting. The account of Aracan, communicated by major Roberts, has appeared in the same work. This is the eastern region, which we have had occasion to describe in our review of major Symes' embassy to Ava. The banditti, who carried off some of the inhabitants of the south-eastern coast of Bengal, are inhabitants of the north-western coasts of Ava, and of a different character from the nation in general. The description was communicated by those who had been carried off, but who afterwards escaped. An extract from the sixth volume of the works of Sir William Jones, on the primitive religion of the Hindûs, and some extracts from the Vedas, follow. Dr. Fontana's memoir on the cochineal of Bengal is next inserted. This cochineal appears to be of an inferior quality, and less rich in its colouring matter, than that of South America; but, on the whole, it seems to be applicable to many useful purposes. The narrative respecting his majesty's ship Resistance at the time of her blowing up, is taken from the Madras courier, and has been copied, more concisely, in the English newspapers. The ship was blown up at sea, and three only escaped. Congratulatory letters to Mr. Hastings conclude this department of the work: an excellent one written in the Persian language, and translated by a Persian, is too interesting to be omitted in our journal.

'To the Hon. Warren Hastings, esq. late governor-general of the British dominions in the East-Indies.

'*Lucknow, 15th Feb. 1785.

'Honourable Sir,

'It is, to-day, five years since I had the honour to speak to you; nor has it been in my power to see you these two years. Your time is too important, honourable Sir, to be engrossed, even for a moment, by any thing short of some material business, on my part: But yet I have been enjoying you all this while: I have been enjoying you, honourable Sir, in that reverential awe, and that high admiration, you have impressed all Hindustân with—in that love of their's which the natives have more than once forcibly expressed for your person, and to which you are the only European that ever had any access: so that whenever, in letters from London, or in public papers, I chanced to observe that the best-qualified judges in

'* Lucknow, at nine hundred miles from Calcutta, is the capital of the Oude; and I arrived there just as the governor had quitted it to return to Bengal.

Europe, had at laſt cloſed with the high opinion entertained of your talents in India, I exulted in that univerſal approbation, as if lord Stair's * excellent tracts had reflected ſome luſtre even upon me. Gone are now our joys, honourable Sir—You are quitting us. This piece of intelligence, to which you ſeemed to have prepared our minds, has ſhaken my whole frame, as if it were ſome ſudden unexpected ſtroke.† To no purpoſe do I ſearch for ſolace in roving from ſeat to ſeat, and from garden to garden: "poſt equitem ſedet atra Cura"—Nothing is green for me now in theſe once pleaſing ſpots: they are become ſo many dreary deſarts; nor am I ever ſenſible of my being gone in or come out, but when I am put in mind of it by my people.

'To no purpoſe is it to repeat to myſelf, that the Engliſh are but ſo many ſtrangers to me, and that yourſelf, after all, are but one of thoſe ſtrangers. Soon my heart recoils at the ſacrilegious argument; and a recollection partly pleaſing, and partly painful, never fails to inform me internally, that after an intercourſe of five and twenty years, thoſe ſtrangers are become my only countrymen; that yourſelf, honourable Sir, are my oldeſt acquaintance amongſt thoſe countrymen, and, moreover, my partial and munificent patron; and that if, inſtead of ſhining in the world as the Chatham of the eaſt, it had been your fate to have moved only in an humble ſtation, you would have been my boſom-friend.

'It has been a ſtanding rule hitherto with me, honourable Sir, never to take a perſonal leave of my friends. But many are the alterations occaſioned in me by your departure; and it is not without a ſenſe of jealouſy I ſee colonel Martine ‡ hurrying down to bid you his laſt farewell. Twice have I attempted to return to Europe; and twice have I been obliged to come back, after having loſt every thing; ſo that, ten years ago, I had ſat myſelf down with a reſolution to liſten to the voice of Providence, and to end my days in India: but India is become a dreary waſte for me now; and I am

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'* In one of theſe tracts, where that deep-thinking nobleman examines critically the ſtate of his nation, and of courſe that of all Europe, he ſays, that the Engliſh arms have been unſucceſsful every where, except in India, where they have triumphed;—a ſingularity which he aſcribes to the Chatham of the Eaſt, (and that is his expreſſion.)

'† The governor had already ſent his conſort to England.

'‡ Colonel Martine is one of thoſe French, who, driven to deſpair by the miſery and famine that deſolated Pondicherry in 1760, threw themſelves among the Engliſh. He has ever been with them ſince that day; and, although conſtantly employed in deſperate affairs (ſo ſays the hiſtorian Orme, one of the beſt-informed, as well as one of the moſt eloquent men that ever wrote hiſtory), he has never been wounded. Colonel Martine is a man deſirous of all kinds of knowledge; and, although he is at the head of a large fortune, which he owes only to his induſtry, he works whole days together, at all the arts that concern watch-making and gunſmith-work, with as much bodily labour as if he had his bread to earn by it. As an architect (and he is every thing), he has built himſelf, at Lucknow, a ſtrong elegant houſe, that has neither beams nor cupola, and is ſo contrived that a ſingle man might defend it againſt multitudes.'

now preparing to quit it for the third time, were it but to get rid of that emptiness which every-where surrounds me.

'I have known your person, honourable Sir, these five and twenty years. The life of dispute and contention to which you have been doomed this long while, cannot have altered the original sensibility of your heart. Receive, then, honourable Sir, an offering worthy of it. This letter,—this artless, disorderly letter, has been in many a spot bedewed with the tear of affection, and more than once interrupted by the sob of regret, and the scream of deep-felt woe.

'May that Providence that has overshadowed you on many an awful occasion, continue to watch over your person, in your intended journey! And when, after a long series of years gloriously spent, your last hour shall have come, may you depart with recollection enough to remember, that you have been an ornament to your nation, a benefactor to your country, and a resource to an infinity of distressed.

'I am, with an everlasting attachment, honourable Sir, your ever obliged, respectful servant, NOTA-MANUS.' P. 191.

The poetry of this collection is, as may be supposed, of the oriental kind, or connected with Asia or the various orientalists. The first is a hymn to the sun, by sir William Jones. It is remarkable, that, among the Hindûs, one of the titles of the sun is Arca, and that by the Thibetians the sun's car is represented like a boat.

The second is the translation of a Persian ode by Shah Aulum, written after his eyes had been put out. An epitaph on the famous Job Charnock, who was the founder of the British settlement at Calcutta, from the old cemetery at that town, and the lines on the cenotaph, erected by Sir William Draper to the conquerors of India, conclude this part of the work.

The books reviewed are, the Works of Sir William Jones; Sir William Ouseley's translation of a part of the Jehan Ara, respecting the Ancient History of Persia; Fra Paolino's Voyage to the East-Indies; Sonnini's Travels; and Mr. Jackson's Journey (over-land) from India. These we have noticed or shall have occasion to examine.—On the whole, this first volume of the Asiatic Annual Register has given us great satisfaction; and we can only wish the editors a continuance of the encouragement they have received, and which they have so well deserved.

A Treatise on Febrile Diseases, including Intermitting, Remitting, and Continued Fevers; Eruptive Fevers; Inflammations; Hemorrhages; and the Profluvia; in which an Attempt is made to present at one View, whatever, in the present State of Medicine, it is requisite for the Physician to know respecting the Symptoms, Causes, and Cure of those Diseases. By Alexander Philips Wilson, M.D. F.R.S. Ed. &c. 8vo. 9s. Boards. Cadell *and* Davies. 1799.

OUR author's first object was to give a course of lectures on febrile diseases, as the symptoms and the management of these disorders are obscure and complicated. Infirm health has obliged him to decline the labour of lecturing; and he now offers the result of his inquiries to the medical student in the present form, intending to conclude his plan in five volumes, of which the first on intermittent, remittent, and continued fevers, is a complete work, if no other should be published. A plan of such magnitude requires much deliberation and mature reflection, both from the author and the reviewer. We must suppose that he has already taken his share of the task; and we may now be indulged with a few remarks on our side.

It will be immediately obvious, that to exhibit a work of this kind complete, "omnibus numeris absolutum," must be far beyond the purposed compass and bulk. We need only look to the space occupied by febrile diseases in the writings of Hoffman and Van Swieten, to be at once convinced of the truth of this opinion, especially when we consider that many disquisitions unknown to them must for some time detain a modern author. Selection and comprehensive views are therefore necessary, with such references to other authors as may fill up lacunæ on comparatively trifling occasions, or give more complete views in the important parts. Long disquisitions are therefore seldom admissible: a short view of the whole, adverting to contending opinions and giving the result of the arguments of each side, can only make a part of a system like this before us. Should the author indulge in more, it must be at the expense of information more valuable. We are indeed aware, that the importance of each subject must be ultimately appreciated by his own opinion; but the teacher who aims at giving a general view should notice every part either fully or subordinately. If, after these considerations, we should offer an opinion of the volume, we should say that it is too full on some topics, and defective in others. The author has, in the general views, engaged too much in detail, and has wholly omitted parts which the student should know. It is not necessary, for instance, to follow the abstruse

metaphysical pathology of Stahl de Motu tonico, or the vague indeterminate ideas of Boerhaave respecting the inertia liquidi nervosi; it is sufficient that the student should be informed of the existence of such doctrines, and should learn where they may be traced. Various parts where retrenchment or a more comprehensive conciseness would have been proper, will occur to every reader. The great extent of the diagnosis and prognosis is often disproportioned. If Dr. Wilson's nosological system were correct, the former might be in a great degree avoided; and, in many parts, the latter might be shortened. He has very properly noticed the observations of foreign authors, and, with great propriety, has chiefly attended to their facts, neglecting their reasoning; but the want of minute and accurate quotations will prevent these references from being useful. We should wish, for instance, for more particular information respecting those intermittents where the sweating was the *first*, and the cold stage the *last*, period of the fever, than can be found by reference to 'Burserius' Institut. Med. Pract.' and the very marvellous, frequently the suspicious, collections of Schenkius. Again, we know that the Boerhaavian school considered vernal tertians, not disturbed by active remedies, as salutary; but it would have been very satisfactory to be informed in what part of his voluminous commentary Van Swieten has said the same of quartans. Many similar difficulties occur.

In the general developement of the plan, however, we think our author is, in many respects, clear and judicious. We wished chiefly for less detail, and more general, as well as more comprehensive, accounts in many parts. What Dr. Wilson has done indeed demands our gratitude; but, to enable our readers also to judge of the work, we must be more particular, especially as some parts have the claim of novelty.

Nosology is the subject of our author's introduction; but the arrangement of diseases is very imperfect, from a very unsuspected source. This is, that all the authors, even Linnæus, began at the wrong end. Instead of rising from species to genera, they formed classes and orders before they examined the connexion of individual disorders. Linnæus, for instance, knew that his botanical genera were groupes of species; but, in arranging diseases botanically, he made individual diseases genera. This error Dr. Wilson seems to have perceived, but he has rectified it imperfectly. He saw that Dr. Cullen's order pyrexiæ improperly included idiopathic and symptomatic fevers, and therefore separated them; but this distinction should have rather taught him to reject the class wholly. Many similar diseases are also separated, from their not being attended with fever. This, which with our author forms a striking difficulty, should have led to the same conclusion. In short,

till the subordinate parts shall be more distinctly ascertained, it will be impossible to form, satisfactorily, the more comprehensive associations. This will probably lead to natural orders, and we have reason to expect soon a very valuable attempt of this kind.

Some other useful and judicious remarks on Dr. Cullen's nosological system, occur in the introduction. Our author, with many practitioners, denies that miliaria is ever idiopathic. We have, however, seen more than one instance of its being so, and have even seen it epidemic, though in a confined circle. Aphtha, though not attended with a particularly marked fever, is certainly sometimes an idiopathic disease. Of 120 boys, in one grammar-school, not ten escaped aphtha at nearly the same period, though more than one-half of the number was scattered through a large town, and very few, if any, were so ill as to be kept from school—

' ———Quæque ipse miserrima vidi,
Et quorum pars——— fui.

This is a fact of singular curiosity. Erysipelas too we have seen idiopathic, and contagious: it once ran, with few exceptions, through a whole ward of an infirmary. Our author's nosological system, as far as relates to fevers, may be shortly explained. His two first classes are idiopathic and symptomatic fevers; the first without, the second with, primary local affection. The first class is divided into three orders, the intermittents and remittents, continued fevers, and those exanthemata where the fever is not symptomatic. There are no subdivisions of the first order. The second contains the three genera of Dr. Cullen, styled by Dr. Wilson species, his system admitting no genera; and the varieties of synochus are simplex, petechialis, miliaris, aphthosus, erysipelatosus, and vesicularis. The third order branches into the small pox, chicken pox, meazles, scarlet fever, plague, and nettle-rash. In the second class, symptomatic fevers are three orders, phlegmasiæ, hæmorrhagiæ, and profluvia, which scarcely differ from those of Dr. Cullen; but the second contains only epistasis, hæmoptysis, hæmorrhois, menorrhagia, hæmatemesis, and hæmaturia.

In our author's general account of the symptoms and cure of fevers, we find him sufficiently full and correct. His authorities are good, and we wish only, as we have said, that the quotations had been more minute. In the practical part, we wished, in some instances, for the titles of the works whose authors are quoted, but the omission is not frequent.

The principal novelty in this volume occurs in the chapter on the proximate cause of fever. Cullen's doctrine Dr. Wilson deems merely hypothetical, as it does not explain the connexion between the different and opposite changes which

take place in fevers. The great error in Dr. Cullen's doctrine is in considering the formation of spasm as the first effort of the vis medicatrix: it is in reality a symptom of debility only, and what is called the increased action of the sanguiferous system is only irregular action. But it is not our present object to defend the professor's doctrine; we must follow the present author. In the contrasted account of Brown's system, he remarks, that 'this alone is founded in a great measure on observation;' yet he adds, 'in taking a few right steps he has taken many wrong ones,' (p. 460); 'that many of his opinions contradict the fundamental principles of his system,' (p. 472); that from the elements of medicine 'there are scarcely two people who would give the same account of his doctrines,' ibid; and that, in the principal fundamental point, 'this system departs from truth,' (p. 480). The general principle of the Brunonian doctrine is the observation that excitability may be occasionally accumulated, and by immoderate or improper application of stimuli diminished or destroyed. The fact must be often kept in view; yet we have seldom seen any judicious application of it. Dr. Wilson shows, that the application frequently made by Brown himself of this position, either in explaining the doctrines of health or disease, was improper. On the whole, we know not that a more able opponent of Dr. Brown could be found than our present author. He has proved the whole system to be so loose, so incorrect, and so inapplicable to practice, that it may be safely forgotten. It has at least little connexion with this subject, and was chiefly introduced to explain Dr. Wilson's own doctrine. The principal parts of this we shall transcribe.

'The laws of excitability are changed in fever. This change is sufficient to account for the phænomena essential to fever, without supposing any change induced on the fluids.

'We know that the laws of excitability in fevers are different from those which prevail in health, because the same external agents, the same degree of exercise, the same degree of temperature, the same quantity of food, of light, of sound, &c. which in health occasion moderate excitement, followed by exhaustion; in fever produce excessive excitement or atony. The state of the living solids being thus changed, there must be a corresponding change in the effects of the internal agents, the circulating, and other fluids; hence the phænomena of fever.

'The proximate cause of fever therefore is a change in the laws of excitability; in consequence of which the same agents no longer produce the same effects.

'How the remote causes of fever act in inducing this change, and on what change in the living solid this change in the laws of excitability depends, we neither can, nor ever shall perhaps be able

to determine. This part of the subject is involved in the utmost obscurity. From the facts which have been stated, it is certain that the causes of fever do effect this change, and it is evident that such a change in the living solid must occasion the phænomena of fever.

'We could have told a priori, that if the natural agents either stimulate in excess, or become atonics, the phænomena of fever would be the consequence.

'Some of these phænomena may be explained, by supposing that the principal natural agent, the blood, is so changed as to produce effects on the living solid, different from those consistent with health. There is a species of fever evidently produced by this cause. When opium or fermented liquors are received into the mass of blood, they so change the properties of this fluid, that it stimulates the heart and blood-vessels to more frequent and powerful contractions than usual. But if a quantity of these agents has not been received into the body sufficient to effect a change in the laws of excitability, the other symptoms of fever do not appear; and this always proves temporary, the excitability of the heart and blood-vessels being affected by the blood in the usual way, as soon as it has regained its usual properties, in consequence of the expulsion of the offending matter by the excretories.' P. 529.

To this doctrine, if it may be so styled, some objections might be made; and the principal allegation is neither proved by what precedes, nor by what follows. The excitability of some parts is increased, and that of others lessened. If the author had said that the æquilibrium of the healthy state is changed, he would have been nearer the truth; but increase or diminution do not imply a change in the laws. Opium will still induce sleep; wine will occasion heat with increased pulse and ipecacuanha produce vomiting.

In the treatment of continued fevers, the author follows the plan suggested by this doctrine, and in synocha proposes to change 'excessive into moderate excitement;' in typhus, 'atony into moderate excitement.' These, however, are only plans for the arrangement of the remedies. Indications of this kind neither add to our knowledge, nor correct former errors. In the subdivisions, we find no room for laxatives, a remedy which we have found important in fevers; and in the incidental mention made of them we find the usual timidity we have often observed in practical authors. Dr. Geach's practice of combining calomel with antimonials, was perhaps not published when the last hand was put to the work. As we promised to notice it again, we may now add, that we have often found it a valuable improvement in the management of fevers on their first appearance.

Sonnini's Travels in Upper and Lower Egypt. (Continued from Vol. XXVIII. New Arrangement, p. 253.)

WE resume, with pleasure, the travels of our entertaining and intelligent naturalist; for, when national vanity and political views do not interfere, his remarks are generally judicious, his descriptions animated and appropriate. We find little of the dull detail of common minds, of the general indiscriminate accounts of closet travellers; but the whole scene is brought before us in its native hues. Some have objected, and indeed with justice, that our traveller has not added much to the common stock of knowledge from his travels through this long-famed country, and that the extent of his journey is much less than what it is professed to be, as in the southern direction he is exceeded by Bruce and others, in the western and more interesting parts by Browne. This may be safely admitted, without greatly lessening the value of his labours; for the descriptions of an intelligent traveller, not confined in his views, or limited in his previous knowledge, must always be interesting; nor have we any reason to doubt the fidelity of Sonnini, when France, French valour and humanity, are not concerned. We left him in his progress to higher Egypt, and shall now follow him in the remainder of his tour.

The jealousy of the modern inhabitants of Egypt, and their suspicions that the visits of Europeans are designed only to convey away those treasures which they have the peculiar art of discovering in their hidden recesses, are the frequent sources of danger to the transitory visitant. Sonnini was often in difficulties from this cause, but surmounted them by a cool presence of mind, which seems never to have forsaken him.

The Egyptian animals called camels, are strictly the dromedaries. Our traveller confirms the usual accounts of their patience and perseverance, but adds to their character less pleasing traits of revenge. They are sensible of harsh unjust treatment, and treasure it in their minds; but, the passion once satiated, they yield again to the burthen, and obey the rider. They may be occasionally soothed for transient injuries, but their revenge for greater ones is not easily satisfied; and it is not uncommon for those who have offended them to place their clothes in the animal's way, stuffed so as to resemble themselves. The camel attacks these, and tramples on them with violence, after which the master may safely appear. Camels travel with speed; but the fatigue in the dry barren desert is inconceivable. A Bedouin, however, in five days travelled from Cairo to Mecca, a space of four hundred leagues, which employs a caravan for thirty days.

In the desert, Sonnini had occasion to observe the Bedouins

in their uncontaminated ſimplicity. They are frank, courteous, and hoſpitable; and to partake of their ſimple fare gives the traveller a title to their friendſhip, their gratitude, and protection. Luxury is baniſhed from their tents, which are ſhared with their domeſtic animals in ſocial friendſhip. The tribe by which our author was protected, declared that its anceſtors were Europeans and Chriſtians, formerly wrecked on the coaſt of Egypt.

After leaving the canal of Alexandria, our traveller deviated to the weſt, to viſit the nitre beds and ſprings. Theſe, in proper hands, would be the ſource of riches to Egypt, as they contain the foſſil alkali, with little adulteration, from ſea ſalt. The gradual progreſs of land, formed from the ſea, as deſcribed in a late number of our Journal, from major Rennell's work, is well illuſtrated by our author's deſcription of this part of his journey. The deep is ſucceeded by more ſhallow and fine ſand: theſe ſands are occaſionally interſperſed with pebbles, until the whole becomes ſolid. There are two lakes, which are ſometimes united, and theſe ſwell when the Nile ſinks. This alternate ſwelling of the lakes and rivers is not, however, connected. The lakes increaſe from rain in the neighbourhood; the river from rain in the diſtant mountains; and the periods of theſe rains are not the ſame.

'On this ſide of the lakes there ſtands, upon the declivity of the hill, a ſmall houſe, in which the Copts ſay there was born a ſaint, whom they particularly honour, called by them Maximous, probably the Saint Maximus, or Saint Maximinus, of the Catholic legend.

'I ſtopped ſome time near the lakes, and traverſed their banks; at length we continued our route ſtill in a ſouth-weſt direction. After travelling over a ſand entirely covered with hardened natron, that rendered our progreſs extremely fatiguing, both to us and our beaſts, we arrived within a ſmall diſtance of a large ſquare building, in which ſome Coptic monks live ſecluded from the world. I do not believe that there is upon earth a ſituation ſo horrible or forbidding as this ſort of monaſtery. Built in the middle of the deſert, its walls, although very high, when they are ſeen at any conſiderable diſtance, cannot be diſtinguiſhed from the ſands, having the ſame reddiſh colour and naked aſpect. There is no apparent entrance. Not a tree, not a plant of any ſize, ſurrounds it; no road leads to it; no trace of men is to be obſerved near it; or, if ſome footſteps are there imprinted, they are ſoon covered by the ſands, or effaced by the feet of wild and ferocious animals, the proper inhabitants of theſe frightful ſolitudes. Such is the harſh and repulſive appearance of this retreat of men, as uſeleſs as their habitation.' P. 340.

The inhabitants of the convent, confined to this deſolate

ſpot by indolence or a miſtaken zeal, are the moſt ſqualid miſerable beings that the imagination can conceive. Their food, their dreſs, their cells, are ſcanty and wretched in the extreme. The door is walled up, and a wicket only ſometimes opened; for, in fear of ſurpriſe, the monks are uſually drawn by a pulley over the walls. Near this monaſtery, Sonnini was attacked and plundered by Arabs; but his property was reſtored by the ſpirited interference of his own ſcheik, Huſſein, who, it ſeems, in the former part of his life, had been one of the moſt active robbers of the deſert. From the attachment of modern philoſophers, the diſciples of Rouſſeau, to the ſavage or the paſtoral ſtate, we have ſome reaſon to doubt the truth of the warm colours with which the Bedouins and their manners are deſcribed; but the writer may be correct, when he remarks the inconvenience felt on Ali Bey's attempt to exterminate this race. They ſupply various kinds of merchandiſe and camels, and contribute to the diffuſion of the conveniencies which both afford; nor does it leſſen the advantage to thoſe who purchaſe, that the cattle are procured by robbery, or lead them to reflect that they may be loſt in the ſame way.

In our author's return to Cairo, he deſcribes the various natural productions of this climate; and we can fully agree with him, that Egypt, under the protection of an European power, might be a valuable acquiſition. If Great-Britain, with ſafety to her troops, could ſupport a garriſon in Egypt, to her it would be a moſt uſeful territory; but a mutual jealouſy will probably prevent any European power from obtaining it.

A deſcription of Cairo, and a ſketch of the various revolutions of its government, follow. The character of Murad Bey is thus given:

'Murad, who has had the courage to fight the French, is a very handſome man: he has a martial appearance; his chin is covered with a buſhy black beard; his thick eyebrows deſcribe arches of ebony over his large eyes, which are full of vivacity and fire. A long ſcar in one of his cheeks adds to the fierce caſt of his countenance. To great bravery he joins ſingular addreſs and extraordinary ſtrength. He has been known, when riding paſt an ox, to cut off its head with one ſtroke of his ſcimitar. An intrepid warrior, capable of enduring the ſevereſt hardſhips, an excellent horſeman, dexterous and powerful in the uſe of the ſabre, courageous in adverſity, bold in enterpriſe, cool in action, but terrible in an onſet, Murad, with inſtruction, might have become a great general. His proud deportment, and munificent diſpoſition, give him the dignified appearance of a ſovereign; but injuſtice, ignorance, and cruelty, have rendered him a ferocious tyrant.' P. 434.

The mamlouks and the beys often join generoſity and humanity with their acknowledged courage and dexterity in mi-

litary exercises; and the attachment of their women is marked by the most delicate tenderness, and sometimes by the most generous sacrifices. The horses, contrary to the common opinion, are active, spirited, and beautiful, though not particularly strong. The asses of this country, as has often been observed, are very different from the sluggish obstinate animals of the same species in our island. In Egypt the ass is neither degraded nor neglected; and its useful qualities of patience, security, and caution, render it highly valuable.

'In the East, asses have also been of the number of those animals held in the highest estimation: they constituted a part of the wealth of the ancient patriarchs, as they still do of the flocks and herds which the wandering nations of the same countries have continued to rear. The Egyptians alone regarded them with abhorrence; in their eyes they were the execrated emblem of the evil genius of the giant Typhon, the son of Tartarus and Terra, a monster with a hundred heads and a hundred mouths, vomiting flames, who had dared to declare war against the gods, and had at length cut to pieces Osiris, one of the divinities of Egypt. The hatred which the inhabitants of Coptos, in particular, bore to asses, was so inveterate, that it was their custom to precipitate them from the summit of a rock. The people of Busiris and Lycopolis carried their superstition so far as to abstain from blowing the trumpet, because they thought its sound resembled the braying of an ass.

'It has been generally imagined, that this decided aversion to these animals originated from their rufous colour, which the Egyptians supposed to have been the colour of Typhon, and on that account held it in detestation. This opinion has been adopted by the learned author of the Recherches Philosophiques sur les Egyptiens et les Chinois. The reverse, however, is the fact; for the greater part of the Egyptian asses are of a bright grey, several are black, and those which are marked with a few shades of rufous are very uncommon.

'If in the wide field of conjecture, which the history of the most remote periods of antiquity leaves open, I may be permitted to hazard an opinion respecting the horror manifested by the Egyptians towards a race of useful animals, I should trace it to a very different origin. I have already observed, that the ancient people of Egypt were neither conquerors, travellers, nor merchants. They passed from place to place by navigating the Nile, and the canals with which Egypt was more generally intersected than it is at the present day. Horses, as well as camels and asses, which nature has placed in an almost isolated country, in order that nations separated by sandy and uninhabited plains might establish an intercourse with each other, were consequently very much neglected. But as if it was not enough for the Egyptians to be uninfluenced by a spirit of conquest, and as it was at the same time requisite that they

ſhould keep themſelves in a poſture of defence againſt the enterpriſes of their ambitious neighbours, and the incurſions of the Arabs, they were obliged to maintain troops and bodies of cavalry. The horſe, excluded from the catalogue of animals honoured by the Egyptians, was no leſs neceſſary to them in this point of view; but being in a manner employed by them with reluctance, and in a kind of ſervice contrary to the genius and political ſyſtem of the nation, his utility was nevertheleſs inſufficient to acquire him the degree of conſideration which he deſerved. It appears, indeed, that warriors alone enjoyed the right of keeping horſes. Placed in the ſecondary rank, the aſs, according to the principles adopted, was conſidered as altogether uſeleſs, and therefore doomed to a ſtate of abſolute proſcription. It ſeemed as if the Egyptians endeavoured to revenge themſelves on this animal for the uſe they were compelled to make of the horſe. Whatever is regarded as uſeleſs is ſoon deſpiſed; and from contempt, founded on reaſon and reflection, the tranſition is ſhort to hatred and diſguſt.' P. 454.

This remarkable trait in a national character might, perhaps, deſerve more attention than we can here beſtow; nor is it neceſſary to add a ſingle remark on the very trifling, inconcluſive, reaſoning of Sonnini. The averſion of the Egyptians to aſſes was certainly connected with their antipathy to the red colour, not becauſe aſſes were red, but becauſe they had ſo often felt the oppreſſion of the neighbouring Edomites, who were in general of this colour, and whoſe riches conſiſted in aſſes. Their Typhon was red, and a type of this nation, whoſe incurſions were often troubleſome, and who, under the ſhepherd kings, once reigned in Memphis. The whole of this ſubject we may illuſtrate on another occaſion. The jumar, the reputed offspring of a bull and a mare or ſhe-aſs, our author never ſaw, and, with reaſon, diſtruſts its exiſtence. Dr. Shaw was probably the dupe of ſome impoſition.

The deſcriptions of ſome fiſh caught in the Nile are curious, as ſeveral of them had not before been noticed by naturaliſts; and the various cuſtoms of the modern Egyptians, obſerved while M. Sonnini reſided at Cairo, though not always new, are related with ſpirit and intereſt. In the ſecluded ſituation, to which the French in Egypt were at that time confined, our author's remarks could not be very varied and extenſive. The pyramids he could only examine curſorily, but he has added a ſection of one of thoſe ſtructures, of which Mr. Dalton has given the perſpective, and a ſection of the catacombs or mummy pits. Sonnini ſuppoſes the pyramids to have been ſepulchres. Meteorological obſervations are added. On the hotteſt day of Auguſt 1777, Fahrenheit's thermometer was at 92°, and on the colleſt (the 24th), the ſame thermometer was at 82°. The wind was northward, varying from north to eaſt.

In the first twenty-one days of September, the thermometer veered from 85 to 88 *.

The principal object of Sonnini was to penetrate into Abyssinia. In this, however, he was disappointed, partly by the unsettled state of Upper Egypt, but chiefly from having discovered a plot between his conductor and interpreter to rob and murder him in the desert. His journey was therefore more confined; and he did not proceed farther than Luxor, the site of ancient Thebes. His voyage up the Nile furnishes the usual catalogue of frauds, oppressions, and dangers, from which he escaped with some loss, but with no essential injury. The eastern side of the Nile offers only perpendicular rocks and a barren desert; on the west, the land is more fertile, and better cultivated, but the fields are sometimes broken by almost inaccessible cliffs, the resort of barbarous hordes of robbers or pirates; and the river is frequently confined by the cliffs on each side within a narrow and dangerous channel, while the winds, sometimes blowing in a direction opposite to the current, occasion a heavy and inconvenient swell.

'At Bousch, we met with one of those gales of wind from the south, which are so famous, and at the same time so dangerous in these countries. Woe to those who may happen to be then crossing the immense sandy solitudes with which Egypt is bordered! Intrepidity is of no avail, and the most valorous armies might be there overwhelmed by clouds of sand driven impetuously along by the wind, perish from suffocation, and die in despair. The atmosphere seemed as if on fire, and yet was darkened by whirlwinds of dust. Reaumur's thermometer stood at twenty-seven degrees. Both men and animals inhaled nothing but scorching vapours, mixed with fine and burning sand. The plants were parched up: in short, all animated nature was withered.

'This gale of wind still continued on the 27th, and it even appeared to have increased in violence. My sailors were quite dejected; and it was by dint of promises alone that I could prevail on them to set the kanja again in motion, by tracking it along; but the impetuosity of the wind soon rendered their efforts fruitless, and we were forced to stop behind a sandy point that sheltered our boat from the current, the roughness and rapidity of which was increased by the strength of the gale; but we were not here protected from the inconveniences resulting from the southerly wind. The heat was still greater than on the preceding day; the thermometer had risen to twenty-eight degrees. Sweat ran from every pore; and the sand, which the wind carried with it, adhered to our faces, and

* The translator has said, that the thermometer on the hottest and coldest day was at 88. We have corrected it from the original tables, not the abstract, where the same error occurs, the translator having copied too servilely. The numerals in the English tables are very incorrect, particularly in this part. Rev.

formed on them a sort of mask. Our sole employment was to keep bathing our eyes every moment with the water of the river, in order to rid them of the sand, and to endeavour to keep them open. The air was darkened by a thick fog of subtile dust as red as fire, which found its way into every thing. Our caffas, our closest shut trunks, could not exclude it; and if we attempted to eat, our mouths were filled with it as much as with food.' P. 511.

'On the morning of the 29th we set sail with a fine breeze from the north-east. The weather was beautiful; and the atmosphere, cleared of the clouds of dust with which it had been loaded the preceding days, displayed its resplendent azure canopy. Lofty and perpendicular mountains of sand and of rock here contract the course of the Nile, and form, on its east bank, a chain of impregnable ramparts. With vast and frequent intersections, they extend to a great distance into the desert, the horror of which they considerably augment; and the river washing them with its stream, imperceptibly undermines their base. These high masses of stone sometimes project into the Nile, so as to render the straits which they form very dangerous to navigation. In other places they resemble natural fortresses, and would indeed be very well calculated to defend the passage of the Nile. Inaccessible as a habitation for any human being, these barren and frightful mountains are the domain of a multitude of birds, which have there established their abode, where they are never disturbed, and from whence they spread along the waters, and all over the country, in order to seek for prey and food. The name of Dsjebel el Teir (Mountain of the Birds), which is given to this chain of rocks, indicates with what sort of inhabitants it is peopled.' P. 513.

M. Sonnini had little time to examine the ruins of Antinöopolis. The principal object of his remark was a magnificent gate, or triumphal arch, decorated with fluted pillars, of which Paul Lucas has given a very incorrect representation. On the east are numerous excavations in the rock, which are supposed to have been formed by anchorets, by dæmons, &c. according as fancy or superstition dictated. Our author thinks that they were places of burial, but without sufficient reason. Many of these excavations afforded the stone necessary for the heavy magnificence of Egyptian buildings; some may have been formed for occasional shelter, or for other purposes of the very early inhabitants; the repositories of the dead were generally sheltered, and in more dry spots. The excavations in the neighbourhood of Siout are probably of the latter kind.

'The kiaschef lent me his horses to take an excursion to the mountains that form, behind Siout, an amphitheatre of barren rocks, the foot of which is a full quarter of a league from the town. The other side of these mountains, overlooking the Nile, appears at

a distance as if pierced full of holes of different forms; they are the inlets to excavations made in the rock, which is calcareous. Some of these entrances are in the form of an arch, and others in that of an oblong square. They are of handsome workmanship, and ornamented with symbolical devices, among which I observed, both without and within, the figure of a man as large as life, leaning on one hand with a stick. Most of the cavities form very spacious chambers, about thirty feet high. The inside of some of them is charged with figures and hieroglyphics, which time has, in a great measure, effaced. There are still to be distinguished the remains of painting on the ceiling and in the hollow parts of the figures. These chambers are lighted by air-holes made in the rock. There are also in them deep wells cut out in a square form; but into these it was not possible either to see or to descend. I visited four or five of these immense caverns, which are all that I believe are to be found on the back of the mountains near Siout; but they are surrounded with a great number of smaller grottoes, the entrances of which are arched, while those of the larger ones are all straight.' P. 525.

Our traveller assumed the character of a physician, and, from Mr. Bruce's as well as Mr. Browne's experience, we know that it is an office equally difficult and dangerous; but M. Sonnini enlarges on its inconveniences more than the former travellers, and seems often to have extricated himself from great difficulties with address. The length of this article alone prevents us from transcribing some of his humorous details of this kind. The account of the common narcotic of Egypt, the hemp, is more important.

'Hemp is cultivated in the plains of these countries; but it is not spun into thread as in Europe, although it might probably answer for that purpose. It is, nevertheless, a plant very much in use. For want of intoxicating liquors, the Arabs and Egyptians compose from it different preparations, which throw them into a sort of pleasing inebriety, a state of reverie that inspires gaiety and occasions agreeable dreams. This kind of annihilation of the faculty of thinking, this kind of slumber of the soul, bears no resemblance to the intoxication produced by wine or strong liquors, and the French language affords no terms by which it can be expressed. The Arabs give the name of *keif* to this voluptuous vacuity of mind, this sort of fascinating stupor.

'The preparation most in use from this hemp is made by pounding the fruits with their membranous capsules; the paste resulting therefrom is baked, with honey, pepper, and nutmeg, and this sweetmeat is then swallowed in pieces of the size of a nut. The poor, who sooth their misery by the stupefaction produced by hemp, content themselves with bruising the capsules of the seeds in water, and eating the paste. The Egyptians also eat the capsules without

any preparation, and they likewise mix them with tobacco for smoking. At other times they reduce only the capsules and pistils to a fine powder, and throw away the seeds. This powder they mix with an equal quantity of tobacco, and smoke the mixture in a sort of pipe, a very simple, but coarse imitation of the Persian pipe. It is nothing more than the shell of a cocoa-nut, hollowed and filled with water, through which a pungent and intoxicating smoke is inhaled. This manner of smoking is one of the most ordinary pastimes of the women in the southern part of Egypt.

'All these preparations, as well as the parts of the plant that serve to make them, are known under the Arabic name of *haschisch*, which properly signifies *herb*, as if this plant were the herb, or plant of plants. The *haschisch*, the consumption of which is very considerable, is to be met with in all the markets. When it is meant to designate the plant itself, unconnected with its virtues and its use, it is called *basté*.

'Although the hemp of Egypt has much resemblance to ours, it, nevertheless, differs from it in some characters, which appear to constitute a particular species. On an attentive comparison of this hemp with that of Europe, it may be remarked, that its stalk is not near so high; that it acquires in thickness what it wants in height; that the port or habit of the plant is rather that of a shrub, the stem of which is frequently more than two inches in circumference, with numerous and alternate branches adorning it down to the very root. Its leaves are also not so narrow, and less dentated or toothed. The whole plant exhales a stronger smell, and its fructification is smaller, and at the same time more numerous than in the European species.' P. 551.

The account of the fan-palm tree, peculiar to Upper Egypt, is highly interesting. The fruit, as usual with the palms, grows in bunches or clusters on the top, and the numerous naked stems, of a middling thickness, are deeply marked through their whole length with rings. When many grow together, the effect is highly beautiful. It is neither a date-tree, nor does it produce the bdellium, as some authors have asserted. The fruit is about the size of an orange, elongated, and irregularly shaped; and what furnishes the aliment is the dry spongy part, covering the kernel. To our author it was very unpalatable, and resembled that of the courbaril (a species of the hymenæa), growing in South-America.

In Upper Egypt, M. Sonnini met with a very loathsome disease of the leprous kind, resembling the mal rouge of Guiana, described by Hilary under the appellation of the leprosy of the joints. The fingers and toes successively drop off, without any inconvenience to the general health. This, like all other leprous disorders, produces aphrodisiac effects; but it is not considered as infectious. Another species, styled the lo-

via, the 'leprosy of the Arabs,' (Hilary) also occurred to our author: it resembles the elephantiasis of Sauvages. 'The leprous *strakes* on the walls' we did not understand; and as the readers of this translation may be equally uninformed, we may observe, that the words thus rendered are *taches lépreuses*.—Stroke is in some counties called *strake*.

Dendera, the ancient Tentyris, afforded a rich harvest of antiquities; and under the protection of the emir, who commanded in that city, M. Sonnini enjoyed sufficient opportunities of observation. A temple in good preservation still remains; and, as our author remarks, 'is one of the most striking edifices that antiquity has endeavoured to impress with the seal of immortality, which the Egyptians had constantly in view in the prodigious works that they executed. It was dedicated to Isis, and this tutelary divinity of Egypt was there worshipped in the shape of a cat.' This is, indeed, a striking trait of Egyptian architecture. Every thing was immense; and, if magnificence consists in bulk, every thing was magnificent; but if we except the remains of Roman taste, executed by Roman artists, we have little reason to regret the loss of Egyptian buildings. To durability were sacrificed grace, elegance, and even propriety; nor is it easy to say, that their object *was* immortality. It was probably a deficiency of taste, or owing to the facility with which an immense block might be carved into heavy ornaments. The ruins of Dendera teach us no longer to regret the destruction of so many other buildings, truly Egyptian.

'It was not in their architecture alone that the Egyptians displayed that affection for posterity, and that love of immortality, which predominated in all their works; they were also desirous that their paintings should be equally durable. The colours they made use of, the preparation serving to incorporate them closely and immutably into bodies as hard and as solid as stone, are so many proofs of their profound knowledge in the arts, and secrets which our researches have hitherto been unable to bring to light. The ceiling of part of the temple of Dendera is painted in fresco, of the brilliant azure blue colour, with which, in fine weather, the canopy of heaven is adorned; the figures in relievo, with which this blue ground is interspersed, have been painted of a beautiful yellow; and these paintings, at the expiration of some thousands of years, still possess a brilliancy to which our freshest colours cannot be compared, and they are still as bright as if they had been recently laid on.

'I have already mentioned, that the façade of this temple, an admirable and but little known work of the genius and patience which, among the ancient Egyptians, produced wonders, was a hundred and thirty-two feet and some inches in length. I took its

other dimenſions with the ſame exactneſs. The depth of the periſtyle is a hundred and fifteen feet three inches, and its breadth ſixty feet eleven inches. The two ſides of the edifice are two hundred and fifty-four feet nine inches and a half in length; laſtly, the depth is a hundred and ten feet eleven inches. The roof of the temple is flat, and formed of very large ſtones, which are placed from one pillar to another, or from a wall to a pillar, or reſt upon two party-walls. Several of theſe blocks are eighteen feet long and ſix broad. The rubbiſh heaped up behind the temple, and the ſand that collects there, have raiſed the ſoil to a level with the roof of the building, and it may eaſily be aſcended from that part, although the façade is ſtill elevated ſeventy feet above the ground. The inhabitants of the diſtrict had availed themſelves of this ſituation, and built a village upon the very top of the temple, as on a foundation more ſolid than the inconſtant ſands or muddy earth upon which they generally erect their habitations. When I was at Dendera, this modern village was deſerted and overthrown, and its ruins of indurated mud formed a ſingular contraſt with the magnificent remains of the ancient city of Tentyris. It was painful to behold there the moſt complete proof of the total annihilation of the arts in a country which had given them birth, and where they had acquired ſo aſtoniſhing a degree of perfection; and it was ſtill more painful to contemplate the very deplorable decline of the human underſtanding.' P. 597.

If the domeſtic animals of Egypt are the moſt gentle, the wild ones are the moſt ferocious of the whole world. They ſhare, with robbers and pirates, the excavations of the rocks on the ſhores of the Nile, and the hyæna particularly inhabits this region. The hippopotamus is no longer found there; and the crocodile, retiring gradually to the ſouthern regions of Upper Egypt, is not now found below the cataracts. The hippopotamus was deemed ſacred, and the race conſequently was not deſtroyed; but, terrified by the report of fire-arms, it ſeems to have left its uſual haunts. The bear, another ſacred animal in Egypt, has alſo diſappeared. It has been doubted, with reaſon, whether Egypt was ever the reſort of this animal. Sonnini thinks that it once inhabited theſe regions, but we ſuſpect that its appearance was accidental, as its proper country is more elevated and cold. The fertility of Egypt has, in the opinion of this writer, been greatly exaggerated; yet, from careful examination, he admits that, on an average, a crop of corn yields from 25 to 30 for one. This increaſe may, by proper management, be rendered ſtill more productive. The character of the modern Egyptians is well known, and our author does not add greatly to our information in this reſpect. We were a little ſurpriſed at his admitting ſome idle tales, which a ſound judgement would have,

we think, rejected. This is not the æra of extreme credulity. We ſhall conclude our extracts with an account of the acacia, the tree which produces the true gum Arabic.

'Upon the dry and almoſt barren plains of theſe parts of Upper Egypt commonly grows the true acacia, from the ſtem and branches of which is procured the gum Arabic. Its port, or habit, is generally ſtunted, and its ſtem crooked and low; its branches long and few, and left almoſt naked, from the paucity and narrowneſs of its leaves; a very rough bark of a deep brown, and the long white ſpines with which it is armed, give it a harſh and withered appearance, and might make it be taken for one of thoſe aphyllous trees, the ſap of which, benumbed by froſt, is reduced, during the winter, to a ſtate approaching that of death. Very ſmall flowers, white, or tinged with yellow, and almoſt without ſmell, are inſufficient to compenſate for its unattractive port and deficiency of foliage. This ſpecies of acacia, called by the Egyptians *ſunth*, and not *ſanth*, as I have ſeen it written by moſt authors, will never then be reckoned among the ornamental trees, but its utility will always make it be conſidered as one of the moſt valuable. Its wood, of a deep red colour, is hard, and ſuſceptible of a beautiful poliſh. Its ſeeds, encloſed in a pericarp very ſimilar to that of the lupin, yield a red colour, and are uſed to dye Morocco leather. Goats are very fond of this fruit, which, in Arabic, is called *karat.* When pounded with its pericarp, previous to its maturity, it furniſhes our pharmacies with an aſtringent known by the denomination of *ſuccus acaciæ.* But the gum which exudes from the numerous crevices of the bark of the acacia, or from the inciſions made in its trunk or larger branches, is an important article in commerce and manufactures, in which a large quantity of it is conſumed. Great heat is neceſſary for the formation of gum Arabic. In fact, although the acacia thrives in other more northern parts of Egypt, it there produces no gum; in the burning temperature of Thebaïs, on the contrary, I have ſeen it entirely covered with congealed and indurated drops of this mucilaginous juice.

'In more able hands than thoſe of the Egyptians, the acacia might become a powerful mean of reſtoring to cultivation the lands of Upper Egypt, which ſterility has invaded, and the ſoil of which, naturally fit for vegetation, is covered by ſtrata of intruding ſand. However dry or argillaceous might be the earth lying under the ſand, the gum-tree might be there planted, and would live, provided its roots penetrated into a bed of vegetable mould; and the ſtratum of ſand ſurrounding the lower part of its trunk would in no reſpect injure its growth. Foreſts of acacias would ſoon recall vegetation and inhabitants to a ſoil which a variety of circumſtances ſeemed to have perpetually devoted to an arid depopulation; and till it ſhould again be brought to a ſtate of culture, the gum Arabic would yield a return ſufficiently profitable to leave no cauſe to regret the

expenſe of ſuch a plantation. Beſides, the excellent wood which it might ſupply would be an indemnification of no ſmall importance, in a country where that article is extremely ſcarce.' P. 636.

The ruins of Thebes excite our author's aſtoniſhment. Obeliſks; coloſſal ſtatues; rows of ſphinxes; porticoes of a ſurpriſing elevation, one of which is 170 feet high, and 200 broad; immenſe colonnades, the pillars of which are from 20 to 30 feet in circumference, contribute to excite his admiration. The deſcription is, however, neceſſarily indiſtinct, for the ſpot was too dangerous to admit particular obſervation. Our author's return offers nothing peculiarly intereſting, and the curſory reflexions on the French expedition to Egypt afford no new ſubject of remark.

We will now mention the ornaments of theſe volumes, ſpeaking collectively of the original and tranſlations, as well as of the rival tranſlators, and of the work in general. The map prefixed to all is copied from D'Anville; a negligence unpardonable, as it does not always accord with our author's tour, and is, in ſome inſtances, an uſeleſs or a faithleſs guide. Had other avocations, as Sonnini pretends, prevented his giving a new map, he ſhould have, at leaſt, added the Delta on an enlarged ſcale, and corrected this, as well as the map of Upper Egypt, according to his own deſcription. The tranſlators are not blameable for having copied him. They were not required to do more than follow their prototype. The other plates of the original are well executed; but the objects are not always well choſen, and the views have ſometimes an embelliſhed beauty, a little ſuſpicious, though the ſpot particularly alluded to has often been the ſubject of the traveller's panegyric. Theſe ornaments, in the tranſlation printed for Debrett, are very carefully copied, but the imitations want the freedom of the originals. In this tranſlation, we muſt obſerve, an additional plate occurs, viz. a view of the moſque of Abou-Mandour, from the oppoſite ſide, beautifully executed. The imitations in Dr. Hunter's tranſlation are incorrect and inelegant.

Of the tranſlations we ſhall ſay little: the tranſlator who has publiſhed in quarto complains greatly of unfairneſs, as he firſt announced his intended verſion. His rival appeared with a precipitation that at leaſt would induce a ſuſpicion of incorrectneſs; and he has with ſome pleaſantry, but perhaps too much ſeverity, expoſed the numerous errors of Dr. Hunter. If, according to the uſages of the trade, Mr. Debrett's tranſlator was unfairly anticipated, the retaliation may be juſtified; and we can remark, that in many parts we could have added to the liſt of ludicrous errors. A more erroneous and inelegant verſion we have ſeldom ſeen. His rival, to challenge

minute comparison, must have felt himself secure; and indeed he is not very frequently vulnerable.

Of the work itself we need not, after the long detail in two articles, say much. From our attention to it our readers may conclude that we regard it as an interesting and valuable addition to our stock of topographical knowledge. While Egypt is considered as a step to our Indian settlements, we can safely recommend this work as highly important to the nation that wishes to form an establishment in that country. M. Sonnini has, either by accident or design, furnished those facts which will best contribute to its security and solidity.

The Works of Robert Burns; with an Account of his Life, and a Criticism on his Writings. To which are prefixed, some Observations on the Character and Condition of the Scottish Peasantry. 4 Vols. 8vo. 1l. 11s. 6d. Boards. Cadell *and* Davies. 1800.

IN the course of the last hundred years, many an unlettered bard has been obtruded on the notice of the world; but these supposed geniuses have in general sunk with the same rapidity that they rose in the public estimation. The exertions of royal patronage could not shelter the short-lived laurels of Stephen Duck; and many other names are recorded only as instances of the blind partiality of those who imagine they have been so fortunate as to discover a prodigy. Such is not the fate of Burns. He emerged from obscurity to astonish the age, and his early promise was amply fulfilled by his maturer productions. The vigour of his intellect was not impaired by the feverish enjoyments of luxury, nor was it chilled by the coldness of neglected poverty. The fire of his imagination glowed to the last: it was extinguished only with his life.

At the period of his death the public interest was strongly excited by the destitute situation of his wife and children; and it was suggested, that a complete edition of his works would raise a sufficient sum to save them from the extremity of penury. Happily for them, and, we will add, happily for the lovers of true genius, sufficient materials were soon collected to form a most respectable addition to his published poems. The selection and arrangement of these materials were committed to Dr. Currie of Liverpool, whose ardent enthusiasm, corrected by the discretion of true taste, whose knowledge of his native dialect, and whose acquaintance with the local circumstances of Burns' neighbourhood,

rendered him peculiarly well qualified for the happy performance of the task.

The first volume of this edition contains the life of Burns. As this unfortunate offspring of genius was in reality what he is represented to have been—a Scottish peasant—Dr. Currie has introduced his biographical memoir by an account of the character and situation of that order of men. He has thus exhibited to our view the advantages of education which Burns enjoyed, the state of society in which his early store of ideas was collected, and the prototype of those incidents with which his writings abound.

In this dissertation on the state of the Scottish peasantry, Dr. Currie first notices the degree of intellect by which they are so eminently distinguished from men of their own station in other countries. Their superior acquisition of knowledge he justly attributes to the institution and proper management of the schools which are by law established in every parish throughout the kingdom. Knowledge creates a desire to increase our comforts; and the desire of an increase of comforts gives rise to the spirit of emigration, by which so many intelligent Caledonians are actuated; for, as Dr. Currie observes, 'If a greater degree of instruction be given to the peasantry of a country comparatively poor, in the neighbourhood of other countries rich in natural and acquired advantages, and if the barriers be removed which kept them separate, emigration from the former to the latter will take place to a certain extent, by laws nearly as uniform as those by which heat diffuses itself among surrounding bodies, or water finds its level when left to its natural course.'

The fondness for religious disputation, which characterises the lower classes of people in Scotland, Dr. Currie ascribes to their early initiation into the mysteries of Christianity by the use of the Westminster catechism as a school-book. This cultivation of religious inquiry, joined to their fondness of general reading, tends to make them orderly and sober; and they are not encouraged to violate these virtues by the institution of poor laws, which Dr. Currie happily denominates a 'bounty on idleness and a duty on industry.'

'Hence,' he says, 'it will not appear surprising, if the Scottish peasantry have a more than usual share of prudence and reflection, if they approach nearer than persons of their order usually do, to the definition of a man, that of "a being who looks before and after."'

Dr. Currie next touches upon the fondness of the Scottish peasants for their national music and dancing. Noticing the amatory character in the rustic muse of Scotland, he is naturally led to treat of the habits and customs of his country in

relation to the intercourse between the sexes. This topic he introduces by the following just and elegant observations.

In appreciating the happiness and virtue of a community, there is perhaps no single criterion on which so much dependence may be placed, as the state of the intercourse between the sexes. Where this displays ardour of attachment, accompanied by purity of conduct, the character and the influence of women rise in society, our imperfect nature mounts in the scale of moral excellence, and from the source of this single affection, a stream of felicity descends, which branches into a thousand rivulets that enrich and adorn the field of life. Where the attachment between the sexes sinks into an appetite, the heritage of our species is comparatively poor, and man approaches the condition of the brutes that perish. "If we could with safety indulge the pleasing supposition that Fingal lived, and that Ossian sung," Scotland, judging from this criterion, might be considered as ranking high in happiness and virtue, in very remote ages.' P. 18.

Having mentioned the severity of the law which prescribes the punishment of incontinence, he shows, that the evil tendency of this law is in a great measure counteracted by the facility of contracting marriage, which only requires from the parties the deliberate acknowledgement of each other as husband and wife before witnesses. The parties themselves fix the date of their marriage; and, in consequence of this contract, all children born before wedlock are at once constituted legitimate.

The manner in which Dr. Currie accounts for the peculiar attachment of the northern Britons to the land of their nativity, is philosophical and convincing. We should do injustice to this part of his dissertation by abridging it; and it is too long to be inserted entire. We must therefore refer our readers to the work itself, taking the liberty of pointing out pages 26 to 31 inclusive, as worthy of their particular attention.

The interest excited by the untimely death of Burns gave rise to numerous inquiries into the particulars of his life on the part of the admirers of his writings; and the correspondence which he maintained with some of his literary friends affords ample documents, from which the progress of his intellect and the rise and confirmation of his habits may be accurately traced. His biographer has therefore judiciously adopted for his model Mason's Life of Gray, making the letters of Burns and his friends the stamina of his work, connecting them by occasional narrative, and illustrating them by necessary explanation and comment. The following letter from the poet to Dr. Moore gives an interesting account of the transactions of his early years.

'Sir, 'Mauchline, 2d August, 1787.

'For ſome months paſt I have been rambling over the country, but I am now confined with ſome lingering complaints, originating, as I take it, in the ſtomach. To divert my ſpirits a little in this miſerable fog of *ennui*, I have taken a whim to give you a hiſtory of myſelf. My name has made ſome little noiſe in this country; you have done me the honour to intereſt yourſelf very warmly in my behalf; and I think a faithful account of what character of a man I am, and how I came by that character, may perhaps amuſe you in an idle moment. I will give you an honeſt narrative, though I know it will be often at my own expenſe; for I aſſure you, Sir, I have, like Solomon, whoſe character, excepting in the trifling affair of wiſdom, I ſometimes think I reſemble, I have, I ſay, like him turned my eyes to behold madneſs and folly, and like him too, frequently ſhaken hands with their intoxicating friendſhip. * * * After you have peruſed theſe pages, ſhould you think them trifling and impertinent, I only beg leave to tell you, that the poor author wrote them under ſome twitching qualms of conſcience, ariſing from a ſuſpicion that he was doing what he ought not to do; a predicament he has more than once been in before.

'I have not the moſt diſtant pretenſions to aſſume that character which the pye-coated guardians of eſcutcheons call, a gentleman. When at Edinburgh laſt winter, I got acquainted in the herald's office, and looking through that granary of honours, I there found almoſt every name of the kingdom; but for me,

'My ancient but ignoble blood
Has crept thro' ſcoundrels ever ſince the flood.

Gules, purpure, argent, &c. quite diſowned me.

'My father was of the north of Scotland, the ſon of a farmer, and was thrown by early misfortunes on the world at large; where, after many years wanderings and ſojournings, he picked up a pretty large quantity of obſervation and experience, to which I am indebted for moſt of my little pretenſions to wiſdom.—I have met with few who underſtood men, their manners, and their ways, equal to him; but ſtubborn, ungainly integrity, and headlong ungovernable iraſcibility, are diſqualifying circumſtances; conſequently I was born a very poor man's ſon. For the firſt ſix or ſeven years of my life, my father was gardener to a worthy gentleman of ſmall eſtate in the neighbourhood of Ayr. Had he continued in that ſtation, I muſt have marched off to be one of the little underlings about a farm-houſe; but it was his deareſt wiſh and prayer to have it in his power to keep his children under his own eye, till they could diſcern between good and evil; ſo with the aſſiſtance of his generous maſter, my father ventured on a ſmall farm on his eſtate. At thoſe years I was by no means a favourite with any body. I was a good deal noted for a retentive memory, a ſtubborn

ſturdy ſomething in my diſpoſition, and an enthuſiaſtic ideot piety. I ſay ideot piety; becauſe I was then but a child. Though it coſt the ſchoolmaſter ſome thraſhings, I made an excellent Engliſh ſcholar; and by the time I was ten or eleven years of age, I was a critic in ſubſtantives, verbs, and particles. In my infant and boyiſh days too, I owed much to an old woman who reſided in the family, remarkable for her ignorance, credulity, and ſuperſtition. She had, I ſuppoſe, the largeſt collection in the country of tales and ſongs concerning devils, ghoſts, fairies, brownies, witches, warlocks, ſpunkies, kelpies, elf-candles, dead-lights, wraiths, apparitions, cantraips, giants, inchanted towers, dragons, and other trumpery. This cultivated the latent ſeeds of poetry; but had ſo ſtrong an effect on my imagination, that to this hour, in my nocturnal rambles, I ſometimes keep a ſharp look out in ſuſpicious places; and though nobody can be more ſceptical than I am in ſuch matters, yet it often takes an effort of philoſophy to ſhake off theſe idle terrors. The earlieſt compoſition that I recollect taking pleaſure in, was the Viſion of Mirza, and a hymn of Addiſon's, beginning, 'How are thy ſervants bleſt, O Lord!' I particularly remember one half-ſtanza which was muſic to my boyiſh ear—

For though on dreadful whirls we hung
High on the broken wave.—

I met with theſe pieces in Maſon's Engliſh Collection, one of my ſchool-books. The two firſt books I ever read in private, and which gave me more pleaſure than any two books I ever read ſince, were, The Life of Hannibal, and The Hiſtory of Sir William Wallace. Hannibal gave my young ideas ſuch a turn, that I uſed to ſtrut in raptures up and down after the recruiting drum and bag-pipe, and wiſh myſelf tall enough to be a ſoldier; while the ſtory of Wallace poured a Scottiſh prejudice into my veins, which will boil along there, till the flood-gates of life ſhut in eternal reſt.

'Polemical divinity about this time was putting the country half-mad, and I, ambitious of ſhining in converſation parties on Sundays between ſermons, at funerals, &c. uſed a few years afterwards to puzzle Calviniſm with ſo much heat and indiſcretion, that I raiſed a hue and cry of hereſy againſt me, which has not ceaſed to this hour.

'My vicinity to Ayr was of ſome advantage to me. My ſocial diſpoſition, when not checked by ſome modifications of ſpited pride, was, like our catechiſm definition of infinitude, without bounds or limits. I formed ſeveral connections with other younkers who poſſeſſed ſuperior advantages; the youngling actors who were buſy in the rehearſal of parts in which they were ſhortly to appear on the ſtage of life, where, alas! I was deſtined to drudge behind the ſcenes. It is not commonly at this green age, that our young gentry have a juſt ſenſe of the immenſe diſtance between them and their ragged play-fellows. It takes a few daſhes into the world, to

give the young great man that proper, decent, unnoticing disregard for the poor, insignificant, stupid devils, the mechanics and peasantry around him, who were perhaps born in the same village. My young superiors never insulted the clouterly appearance of my plough-boy carcase, the two extremes of which were often exposed to all the inclemencies of all the seasons. They would give me stray volumes of books; among them, even then, I could pick up some observations, and one, whose heart I am sure not even the Munny Begum scenes have tainted, helped me to a little French. Parting with these my young friends and benefactors, as they occasionally went off for the East or West Indies, was often to me a sore affliction, but I was soon called to more serious evils. My father's generous master died; the farm proved a ruinous bargain; and to clench the misfortune, we fell into the hands of a factor, who sat for the picture I have drawn of one in my tale of Twa Dogs. My father was advanced in life when he married; I was the eldest of seven children, and he, worn out by early hardships, was unfit for labour. My father's spirit was soon irritated, but not easily broken. There was a freedom in his lease in two years more, and to weather these two years, we retrenched our expenses. We lived very poorly: I was a dextrous ploughman for my age; and the next eldest to me was a brother (Gilbert) who could drive the plough very well, and help me to thrash the corn. A novel-writer might perhaps have viewed these scenes with some satisfaction, but so did not I; my indignation yet boils at the recollection of the s——l factor's insolent threatening letters, which used to set us all in tears.

'This kind of life—the cheerless gloom of a hermit, with the unceasing moil of a galley-slave, brought me to my sixteenth year; a little before which period I first committed the sin of rhyme. You know our country custom of coupling a man and woman together as partners in the labours of harvest. In my fifteenth autumn, my partner was a bewitching creature, a year younger than myself. My scarcity of English denies me the power of doing her justice in that language, but you know the Scottish idiom; she was a bonnie, sweet, sonsie lass. In short, she altogether, unwittingly to herself, initiated me in that delicious passion, which, in spite of acid disappointment, gin-horse prudence, and book-worm philosophy, I hold to be the first of human joys, our dearest blessing here below! How she caught the contagion I cannot tell; you medical people talk much of infection from breathing the same air, the touch, &c. but I never expressly said I loved her.—Indeed I did not know myself why I liked so much to loiter behind with her, when returning in the evening from our labours; why the tones of her voice made my heart-strings thrill like an Æolian harp; and particularly why my pulse beat such a furious ratan when I looked and fingered over her little hand to pick out the cruel nettle-stings and thistles. Among her other love-inspiring qualities, she sung

ſweetly; and it was her favourite reel to which I attempted giving an embodied vehicle in rhyme. I was not ſo preſumptuous as to imagine that I could make verſes like printed ones, compoſed by men who had Greek and Latin; but my girl ſung a ſong which was ſaid to be compoſed by a ſmall country laird's ſon, on one of his father's maids, with whom he was in love; and I ſaw no reaſon why I might not rhyme as well as he; for excepting that he could ſmear ſheep, and caſt peats, his father living in the moorlands, he had no more ſcholar-craft than myſelf.

'Thus with me began love and poetry; which at times have been my only, and, till within the laſt twelve months, have been my higheſt enjoyment. My father ſtruggled on till he reached the freedom in his leaſe, when he entered on a larger farm, about ten miles farther in the country. The nature of the bargain he made was ſuch as to throw a little ready money into his hands at the commencement of his leaſe, otherwiſe the affair would have been impracticable. For four years we lived comfortably here, but a difference commencing between him and his landlord as to terms, after three years' toſſing and whirling in the vortex of litigation, my father was juſt ſaved from the horrors of a jail, by a conſumption, which, after two years' promiſes, kindly ſtepped in, and carried him away, to "where the wicked ceaſe from troubling, and where the weary are at reſt!"

'It is during the time that we lived on this farm, that my little ſtory is moſt eventful. I was, at the beginning of this period, perhaps the moſt ungainly aukward boy in the pariſh—no ſolitaire was leſs acquainted with the ways of the world. What I knew of ancient ſtory was gathered from Salmon's and Guthrie's geographical grammars; and the ideas I had formed of modern manners, of literature, and criticiſm, I got from the Spectator. Theſe, with Pope's Works, ſome plays of Shakſpeare, Tull and Dickſon on Agriculture, the Pantheon, Locke's Eſſay on the Human Underſtanding, Stackhouſe's Hiſtory of the Bible, Juſtice's Britiſh Gardener's Directory, Bayle's Lectures, Allan Ramſay's Works, Taylor's Scripture Doctrine of Original Sin, a Select Collection of Engliſh Songs, and Hervey's Meditations, had formed the whole of my reading. The collection of ſongs was my vade mecum. I pored over them driving my cart, or walking to labour, ſong by ſong, verſe by verſe; carefully noting the true tender, or ſublime, from affectation and fuſtian. I am convinced I owe to this practice much of my critic-craft, ſuch as it is.' P. 35.

The father of Burns appears to have been an extraordinary character. At once ſteady and bold, he generated in his ſon that ſpirit of independence which gave an additional intereſt to the ſplendor of his talents. His unbending ſpirit, however, produced a litigation with his landlord, which conſumed the

ſcanty relics of his property; and at his death 'his all (to adopt the energetic words of his ſon) went among the hell-hounds that growl in the kennel of juſtice.' In theſe diſtreſsful circumſtances, Robert, in conjunction with his brother Gilbert, contrived to raiſe money ſufficient to ſtock a neighbouring farm, on which our poet entered, as he ſays, 'with a full reſolution, come, go to, I will be wiſe.'

But it was not in the nature of Burns to follow up his good reſolutions. He was the child of ſenſibility, and was too liable to give way to the power of immediate feeling. Endued with ſuch a temperament, he would of courſe be peculiarly liable to receive the impulſes of the tender paſſion.

'The banks of the Ayr,' his biographer obſerves, 'formed the ſcene of youthful paſſions of a ſtill tenderer nature, the hiſtory of which it would be improper to reveal, were it even in our power, and the traces of which will ſoon be diſcoverable only in thoſe ſtrains of nature and ſenſibility to which they gave birth. The ſong in vol. iv. p. 17, entitled Highland Mary, is known to relate to one of theſe attachments. "It was written," ſays our bard, "on one of the moſt intereſting paſſages of my youthful days." The object of this paſſion died early in life, and the impreſſion left on the mind of Burns ſeems to have been deep and laſting. Several years afterwards, when he was removed to Nithſdale, he gave vent to the ſenſibility of his recollections in the following impaſſioned lines. In the manuſcript book from which we extract them, they are addreſſed "To Mary in Heaven!"

'Thou lingering ſtar, with leſs'ning ray,
    That lov'ſt to greet the early morn,
Again thou uſher'ſt in the day
    My Mary from my ſoul was torn.
O Mary! dear departed ſhade!
    Where is thy place of bliſsful reſt?
See'ſt thou thy lover lowly laid?
    Hear'ſt thou the groans that rend his breaſt?
That ſacred hour can I forget,
    Can I forget the hallowed grove,
Where by the winding Ayr we met,
    To live one day of parting love!
Eternity will not efface,
    Thoſe records dear of tranſports paſt;
Thy image at our laſt embrace;
    Ah! little thought we 'twas our laſt!
Ayr gurgling kiſſed his pebbled ſhore,
    O'erhung with wild woods, thick'ning, green;
The fragrant birch, and hawthorn hoar,
    Twin'd amorous round the raptured ſcene.

The flowers ſprang wanton to be preſt,
The birds ſang love on every ſpray,
'Till too, too ſoon, the glowing weſt,
Proclaimed the ſpeed of winged day.
Sill o'er theſe ſcenes my mem'ry wakes,
And fondly broods with miſer care;
Time but the impreſſion deeper makes,
As ſtreams their channels deeper wear.
My Mary dear departed ſhade!
Where is thy bliſsful place of reſt?
See'ſt thou thy lover lowly laid?
Hear'ſt thou the groans that rend his breaſt?' P. 128.

The circumſtances of diſtreſs to which Burns was once reduced in conſequence of the irregular indulgence of his amorous propenſities, form a memorable period in the hiſtory of his life. Prevented by the interpoſition of her parents from marrying a young woman, the conſequences of whoſe connexion with him could no longer be concealed, he was purſued by the pariſh officers, who were commiſſioned to compel him to find ſecurity for the maintenance of illegitimate twin children.

In this extremity, after publiſhing his poems, he had taken a paſſage in a ſhip which was on the eve of ſailing for Jamaica; his cheſt was on the road; he had taken leave of his friends, and written his laſt farewell to his country, when hope once more ſmiled upon his proſpects, in conſequence of the receipt of a letter from Dr. Blacklock, who by the medium of a friend invited the poet to Edinburgh, with the aſſurance that a ſecond edition of his poems would meet with a ready ſale. This invitation he gratefully accepted, and arrived in the Scottiſh capital in the month of November, 1786.

(To be continued.)

A General Treatiſe on Muſic: particularly on Harmony or Thorough-Baſs, and its Application in Compoſition. Containing alſo many eſſential and original Subjects tending to explain and illuſtrate the whole. By M. P. King. Folio. 1l. 1s. Sewed. Goulding *and* Co. 1800.

IN a country where muſic is ſo much cultivated, and patroniſed at ſo great an expenſe for foreign auxiliaries, as in England, it is ſurpriſing that there ſhould have been ſuch a paucity of treatiſes on the art or ſcience, produced by native profeſſors. Indeed France, till the time of Rameau, had ſcarcely one elementary work on muſic that could be read. Italy and Germany have at all times, ſince the invention of printing, been prolific in books of inſtruction for young ſtu-

dents in harmony. Dr. Burney has, indeed, by digging in our public libraries of Oxford, Cambridge, and the British Museum, discovered manuscripts of great antiquity, written by monks for the use of their monasteries; but, for particular music, nothing seems to have been produced previous to printing, or (we may say) in later times, till after the reformation, when psalmody only seems to have been thought of. Morley's Introduction was the first general treatise that issued from the press in this country. But, after that publication, no theoretical work of great utility or importance appeared, from the death of queen Elizabeth till the beginning of the present century; and, during the first fifty years of this century (according to Dr. Burney's list of musical tracts at the end of the fourth volume of his History), the following were the most important treatises that were presented to the world: Dr. Holder's work on the Natural Grounds and Principles of Harmony, 1701: Malcolm's Treatise on Music, 1721: Pepusch's Treatise on Harmony, 1731: Lampe's Plain and Compendious Method of teaching Thorough-Bass, 1737: Geminiani's Guida Armonica, and Art of Accompaniment, both, we believe, published about the year 1742: Dr. Smith's Harmonics, 1749. But this last learned treatise should be deducted from tracts on practical music; for, though an elegant and scientific work on the philosophy of musical sounds, and division of the monochord or temperament of the scale, it offers no rules for practical harmony.

During the last fifty years, the following didactic works on music have appeared in Great-Britain. Rameau's Treatise on Music, containing the principles of composition, appeared in 1752; but this work not having been originally written in English, and being so ill translated as to be unintelligible, hardly merits a place among our musical publications.—Antoniotto's Treatise on Composition, written originally in Italian, and translated and published under the author's eye in 1760, contains what was well known by the composers of that period, but required explanation for students, and has merit in the doctrine though not in the diction. After this, till Holder's Essay towards a Rational System of Music, a well digested and useful little treatise, was published in 1770, nothing appeared to facilitate the practice of harmony or composition during the next eleven years. Indeed Morley's Introduction was re-published in 1771, of which edition the late Dr. Howard corrected the press and plates; but music, as well as the languages, had undergone such changes since it was first written, that it could neither be read with profit nor with pleasure. It had, however, the merit of an antique, and was purchased as a curiosity beautifully illegible. However, it should be studied by those who think, with sir John Hawkins, that music was 'in its greatest perfection in Europe

from about the middle of the ſixteenth to the beginning of the ſeventeenth century *.'

Stillingfleet's work on the Principles and Power of Harmony, publiſhed in 1771, is an elegant and well written commentary on Tartini's Treatiſe on Harmony; but it would be more likely to bewilder a young ſtudent in compoſition than forward him in his journey.

An ingenious work on harmonics, under the title of an Eſſay on Tune, was publiſhed at Edinburgh in 1781. It teaches the art of purifying harmony, but does nothing for its practical uſe in polyphonic combinations.

Frike's Art of Modulation, from the German, and much enlarged, will open the mind of a young compoſer in what may, perhaps, be called *muſical geography*, by pointing out new roads in travelling from one region of harmony to another. But the ingenious author ſeems to have ſedulouſly avoided the beaten and high road to harmony and melody, and only provides for uncommon caſes.

M. Bemetzrieder has publiſhed many elementary works of conſiderable merit, but none ſo ingenious or ſo elegant as his *Leçons de Clavecin* in the original, which, conſiſting of dialogues between a maſter and ſcholar, are rendered dramatic and entertaining as well as inſtructive †. The Engliſh tranſlation is extremely inaccurate ‡.

A Treatiſe on the Art of Muſic, publiſhed in 1784, by the late rev. Mr. Jones, was written with contracted views and utter ignorance of what had been done within the preceding forty years; and his prejudices againſt every thing new will contribute little towards the formation of a compoſer for preſent or future times.

From this period till the year 1796 no work on compoſition appeared till Mr. Kollmann publiſhed his treatiſe on Muſical Harmony §, which, in 1799, was followed by an Eſſay on Practical Compoſition ‖; both works of an able profeſſor, in which much well-digeſted reading and experience are diſcoverable. In theſe works the laws of harmony are well laid down and exemplified, not only by paſſages from the author's own works but from the greateſt German compoſers, from the time of Handel and Sebaſtian Bach to the preſent period.

We are now arrived at Mr. King's general treatiſe, in the examination of which we ſhall

——— 'nothing extenuate,
Nor ſet down aught in malice.'

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* See Walton's Angler, p. 238. edit. of 1760.

† This work was drawn up from M. Bemetzrieder's materials, by the philoſopher Diderot, whoſe daughter was his ſcholar.

‡ See our Review for 1779, Vol. XLVII. p. 99. and Vol. XLVIII. p. 453.

§ See our XVIIth Vol. New Arr. p. 88.

‖ See our XXVIIIth Vol. New Arr. p. 219.

The introduction to this work contains 'the firſt rudiments of muſic.' Here the author, of courſe, muſt offer to the reader's attention, explanations of ſuch elements and characters as may be found in every book of this kind that *has* been written, and which muſt be inſerted in every book of inſtructions that *may* be written in ſubſequent times; ſuch as clefs, names of notes, characters of notes, characters in general, the dot or *(and)* tye, time, accent, embelliſhments, licenſes. But, though the ſubſtance of this introduction muſt of neceſſity be inſerted in every book of inſtructions, yet the repreſentations and examples are elegant, and the explanations more clear than uſual. Indeed, in order to keep pace with modern inventions and improvements, to theſe the author has added ſeveral new refinements; ſuch as double dots, characters for ſwelling and diminiſhing long notes, and even whole paſſages, abbreviations or ſhort-hand in frequent repetitions of the ſame note, &c.

In the firſt part the 'eſſential principles' occupy ten chapters, which treat of the nature and origin of the ſcale, examination of the ſcale, of the minor ſcale, diatonic, chromatic, and enharmonic ſcales, of keys, intervals, inverſion, of the three motions, of cadences, general rules.

In explaining theſe principles, the author ſometimes mounts into the regions of philoſophy to ſpeak of the propagation of ſound, the doctrine of vibrations, harmonics, &c. of which a beginner juſt learning the gamut or muſical alphabet will not underſtand a word. It ſeems as if the mechanical parts of practical muſic ſhould be well comprehended before a ſtudent is plunged into metaphyſics and the philoſophy of ſound. The tempered ſcale of keyed inſtruments cannot be produced philoſophically without geometry, fluxions, and ſurd quantities. The author advances no abſurdities in trying to explain the ratio or proportion of one ſound to another; all we have to object is, its being done prematurely.

The diviſion of the monochord is well explained, p. 3; and, when a ſtudent has made ſome progreſs in practical muſic, will be eaſily comprehended without mathematical knowledge.

'Let a ſtring, tuned to double C in the baſs, be ſtretched on a ſounding board over two bridges, one at each end: then let it be divided (which may be done by moveable bridges) into the following parts: into one half, and it will give the octave: into one third of its whole length, it gives the octave of its fifth: into one fourth, the double octave: into one fifth, the double octave of its third: into one ſixth, the double octave of its fifth: into one ſeventh, the double octave of its flat ſeventh.' P. 3.

The ſubjects of all the chapters of which we have given

the titles above, are clearly and ingeniouſly explained, in notation as well as words.

The French terms, *dominant*, *tout-dominant*, and *note-ſenſible*, do not naturaliſe well in our language; and we wiſh the author had called theſe ſounds by their old Engliſh names of 5th, 4th, and ſhort 7th, of the key.

Every expreſſion of intervals by figures in thorough-baſs is given at one view in a table, p. 13, which will be eaſily underſtood and retained.

Page 16. The three motions,—right or ſimilar, contrary, and oblique, are well explained in notes; and the reſt of this firſt part of the work will be found clear and uſeful.

The notation of cadences in full harmony (which was much in faſhion with old muſical writers), and the prohibitions of ſucceſſive 5ths and 8ths, furniſh two more chapters to this part, which will be uſeful to juvenile ſtudents in counterpoint.

The ſecond part treats of harmony, under the three diſtinct heads of concord, diſcord, and chords by ſuppoſition.

The firſt chapter in this part contains definitions, among which there is one that will ſurpriſe the young ſtudent, though ſtrictly true. 'The whole ſyſtem of harmony is founded on two chords—on a fundamental concord, and a fundamental diſcord; and from theſe two chords or roots ariſe all others. The two fundamental chords are chords of nature, and thoſe derived from them chords of art;' which chords in the treble, by changing the baſe, furniſh all the varieties of harmony that are expreſſed by figures in thorough-baſs.

Page 23. We have a table of different expreſſions of common chords by figures, followed by an exerciſe of common chords in a ſcore of four parts, in which the diſallowances are avoided. The chords of the 6th, or $^{6}_{4}$th, as products of the common chord, are treated in the ſame manner.

The regarding the extreme ſharp 5th with the major 3d, and the ſharp 3d with the minor 6th (p. 30.), not as regular chords to be prepared and reſolved, but as *tranſient chords*, is very judicious, and different from the practice of the French, and our old maſters of the laſt century, who imitated them as much as the Italians and the Germans have been imitated by us ſince. Theſe deteſtable chords are ſtill fundamentally treated by muſicians of Rameau's ſchool.

Page 31. The 7th, or fundamental diſcord, producing, by a change of baſs to the 3d, 5th, or 7th, of the fundamental ſound, the chords of the $^{6}_{5}$, $^{6}_{\substack{4\\3}}$, $^{4}_{2}$, is judiciouſly treated; as are the preparation and reſolution of the regular 7th.

In ſpeaking of the diminiſhed or extreme flat 7th, the in-

telligent author would have done well to have given, from Rousseau, the twelve different modulations or means of changing the key from that chord, making each sound that constitutes the chord the sharp 7th of new keys.

Instructions and examples are given next to chords by *supposition* (we should rather say *suspension*), including the 4th, 9th, and double discords of $\frac{9}{4}$ and $\frac{9}{7}$, &c. After this we have the 2d with its different accompaniments of $\frac{4}{2}$, $\frac{5}{2}$, &c. The discord of the 2d, prepared and resolved in the bass, seems best expressed by the word *anticipation*.

The chords of the 11th and 13th we think unnecessarily multiply figures and difficulties.

Part III. On the application (or practice) of harmony. In the first chapter of this part, p. 46, the progression of the fundamental bass is well explained and illustrated, and offers an important lesson to young *etymological* harmonists, informing them whence the chords to supposed basses are derived.

The fundamental basses of each key, and the natural harmony of the scale major and minor, ascending and descending, which the French call *la régle de l'octave*, or rule for accompanying the eight notes of each key, are well given and explained, p. 48; and, if practised in all keys, will be found of great use to thorough bass players, by facilitating the means of accompanying without figures.

The tables, p. 58, render the rule still clearer. After this, *suspensions* and anticipations, both in bass and treble, are treated with method and intelligence.

Then follow *passing notes*, under the mistaken title, we think, of *transitions*. We were sorry (p. 17) to observe that Mr. King, whose language is in general accurate and pure, thought it necessary to have recourse to French musical terms, adopting for the 5th and 4th of a key the words *dominant* and *sub-dominant*. No good Italian or German writer on music has yet adopted these terms; servile translators have alone given them admission. 'The great pest of speech', says Dr. Johnson, 'is the frequency of translation.' The 5th cannot be called a *dominant* or governing note at an interrupted close. To say that a close in full harmony cannot be made unless the 5th of the key in the bass rising a 4th or falling a 5th conducts all the several parts to the harmony of the key note, is intelligible, and English. Perhaps new expressions of old rules, though the language may be more elegant, may not be more intelligible to ignorance; and the authority must be very high that shall bring about a change in long established definitions and terms of art.

We do not perceive that the examples of composition from

the author's own source are regularly phrased, or that an equal number of bars in each period of serious and graceful melody has been recommended by him. Symmetry of phrase, in an air, is as necessary as regular numbers in a poem; all grace in the treble part of a composition depends upon it. A broken phrase *(phrase manquée)* may be introduced with effect in dramatic music, to express violent passion or sudden surprise; but, without rhythm, the melody always limps, and is aukward and ungraceful.

Chap. XXX. p. 55. The author enters on the mysterious and important subject of modulation. Regular and usual modulation is clearly exhibited in a table, p. 56. P. 58, the rules for the order of modulation; and 59, the proportionate continuance in each, are pointed out:—60, a circle of keys is given in an ingenious table. After this, our author continues abrupt and extraneous modulation to the end of the third part.

Part IV. Analysis of composition, preceded by some judicious observations, and followed by the analysis of 'God save great George our King;' an adagio, in Corelli's eleventh sonata, op. ii.; Handel's minuet in Ariadne; and the introduction to Haydn's 'Passion of our Saviour.'

We feared, in perusing the preface to this work, that we should, in the course of it, meet with some degree of arrogance and presumption; the author pointing out to his readers his own excellence: 'flattering himself his work was worthy of notice'—'pursuing a plan very different from any yet published'—'treating some subjects not usually taken into consideration'—'uniting method with perspicuity,' &c. would better, perhaps, have been kept back, and left for his readers and critics to say: but let not these seeming boasts repel the reader's curiosity to examine the validity of the author's claims; they are perfectly just and well-founded; and the worst that can be said of them is, that the ingenious author is not wholly ignorant *del suo valore*.

Perhaps Haydn's admirable movement merited more indications of its beauties than Mr. King has bestowed, whose remarks upon it are only grammatical and mechanical. He might have pointed out to the tyro the sobs, sighs, affliction, and dignified sorrow of its principal melody; the science, beauty, and impassioned effects of its modulation; the light and shade of *fortes* and *pianos*, and judicious manner in which that melody is cherished and enforced by the accompaniment. But we can perceive that Mr. King (who we are told is a young man) is not a rapturist. Too great a dose of that enthusiasm which excites rapture on small occasions would have spoiled his book; but let him take care not to arrive at the

nil admirari too ſoon; it will chill his fancy even in his own productions while thoſe of others it will render nauſeous.

Upon the whole, we may venture to recommend this work as a well-digeſted and well-written treatiſe, that is very likely to be of conſiderable uſe to ſtudents in harmony. It will not, perhaps, teach every thing in compoſition, or even in practical thorough-baſs. But the deficiencies in books muſt always be ſupplied by the inſtructions of a good maſter, and by ſcoring a great number of excellent compoſitions. Study and experience muſt furniſh the reſt.

Obſervations on a Tour through the Highlands, &c. By T. Garnett, M. D. *(Continued from p. 12 of this Volume.)*

WE attended our author to Inverneſs, and ſhall now follow him ſouthward to Dunkeld, Perth, Stirling, and Glaſgow. At Inverneſs the highlands on the eaſtern coaſt are generally ſuppoſed to terminate, though their real termination is a little farther ſouth. Perhaps from the reſidence of a colony of Engliſhmen (the diſbanded ſoldiers of Cromwell) in that neighbourhood, our language is ſpoken in greater perfection at Inverneſs than in any other part of Scotland; and a well-educated perſon from that town can ſcarcely be known, from his dialect, to be a Scotchman. The academy merits, we believe, the praiſes which our author has profuſely beſtowed on it; but he has proceeded too far in the following remarks, which we copy, that we may not, by our ſilence, be ſuppoſed to acquieſce in them.

'I cannot avoid obſerving here, that the inhabitants of North Britain have much juſter and more liberal ideas of education than my countrymen; and I cannot but expreſs a wiſh, that many of the large ſchools in England, which are ſo nobly endowed, but in which the dead languages only are taught, were modelled according to the plan of the Scotch academies and univerſities. At the time of the foundation of theſe ſchools, theſe languages were deſervedly in repute; they were the keys which unlocked the learned lore of antiquity.

'After the dark gloom, which was ſpread over Europe by the Goths, and which extinguiſhed every ray of ſcience, had begun to diſpel, numbers of the works of the Greeks and Romans were diſcovered, which were reſcued from the general wreck; theſe were revered, as containing all the knowledge extant. The invention of printing, ſoon afterwards, ſpread theſe treaſures of antiquity over the world; and for ages, the philoſophy of Ariſtotle was the ſtandard, from which there was no appeal: to acquire this knowledge

therefore, it was neceſſary to learn theſe languages. But our knowledge on almoſt every ſubject, and particularly of the ſciences, is now infinitely ſuperior to that of the ancients, and the beſt of their works have been tranſlated into the modern languages. Hence there is now little neceſſity for learning the languages of antiquity, which are to be conſidered more as ornamental than uſeful. Is it not therefore better that the abilities of youth ſhould be exerciſed in gaining a knowledge of things, inſtead of ſounds? Inſtead of tormenting the young mind during that period when a ſtore of uſeful knowledge might be laid in, with ſtudying Latin and Greek for ſeven years, would it not be infinitely to their advantage to inſtruct them in hiſtory, geography, mathematics, mechanics, and other branches of experimental philoſophy; particularly chemiſtry, which is a ſcience of ſuch importance, that there are few ſituations in life which would not be benefited by a knowledge of it? To the farmer it is as neceſſary as to the apothecary or the dyer. It is a ſcience by no means difficult to learn; and were the principles of it early inſtilled into the mind, they would pave the way to diſcoveries perhaps of greater utility than any that have been yet made. Would it not likewiſe be of the utmoſt conſequence to thoſe intended for the different mechanic arts, to be inſtructed in the principles of mechanics? Without theſe principles, they can never make any material improvements: they may indeed ſtumble on diſcoveries, but can never inveſtigate them from true principles.

'If languages are to be learned, let them be the modern languages, as French, German, and Italian, in which uſeful works are written, and buſineſs tranſacted. I would not however diſcard the ancient languages from the ſchools, but conſider them, as is done at Inverneſs and the Scotch univerſities in general, rather as acceſſories, than the principal object of education. To thoſe who exerciſe the learned profeſſions, they are neceſſary, becauſe the ſciences of law and medicine contain a number of technical terms derived immediately from thoſe languages. Liberal and enlightened men are however now employed in ſtripping from them the ſcholaſtic jargon, which has concealed their beauties from the general eye for ſo many centuries. To the divine, theſe languages, and particularly the Greek and Hebrew, ought always to be familiar, it being very ſatisfactory, as well as neceſſary, to conſult the ſacred ſources of revelation in their purity, unadulterated by the ignorance of tranſlators, or the interpolations of the crafty or bigoted; but if medicine and law were ſtripped of the terms which now diſgrace them, and the ſtudent, inſtead of ſpending the beſt of his time in learning the dead languages, ſhould make a proficiency in the modern; and for medicine particularly, lay a good foundation of mathematics, natural hiſtory, and natural philoſophy, he would ſoon acquire a greater and more accurate knowledge of his profeſſion than is generally done.' Vol. ii. P. 5.

This trite declamation might be easily answered; but we shall only ask, following the sciences enumerated by our author and in which we may suppose he excels, Are the best works in medicine, in chemistry, and philosophy, translated, and do we only want the learned languages to explain the terms? Are the works of De Haen, Colin, Quarin, Selle, Bang, and Senac, among the moderns, and many of the ancients, translated? Are the chemical works of Stahl or Mayow, the dissertations in the Göttingen transactions, and the Amœnitates Academicæ, with many others, in an English dress? Yet we are certain that Dr. Garnett would not consider himself as an accomplished physician, philosopher, or chemist, without the knowledge that these afford. In short, this is the cant of modern reformers; and, when they will explain the *things* that can occupy the time of a boy from seven to fourteen years of age, that can give him the habit of attention and diligence which the *words*, so reprobated, can produce, we will consider their remarks in a better light. When they bring, from their new schools, men of knowledge and science equal to those who have, in the usual way, studied the dead languages, we will then admit their observations as deserving a more careful examination.

Inverness is situated between the Frith of Murray and the river Ness. Ships of the burthen of 4 or 500 tons can approach very near to it; so that commerce must greatly flourish. The chief commodity is flax, and its most common form that of white thread, though various kinds of linen goods are manufactured and exported to London, in vessels which bring back supplies of what the Scottish markets most particularly want. The climate is good, much less rain falling, as usual, on the eastern coasts, than on the opposite side of the island. Craig Patrick is no less than 1150 feet above the bed of the river; and, on its top, are the famous vitrified forts. Our author collects the various opinions of the causes of the vitrification, but we can have little doubt of its arising from the destruction of the surrounding buildings either as intended for shelter or defence. A mode of constructing walls so firm and secure could not have been confined to one spot without a hint of the means by which they were raised occurring in any author, while this consequence of conflagration may be limited, both from the larger quantity of wood employed, and the greater vitrescibility of the materials. They are evidently of very early antiquity, when wood in all *Caledonia* abounded, and are found on many of the hills.

Loch Moy, and the island of stones on it, are shortly described; but we could have wished for a more particular account of the 'Druidical temple, *very entire*,' near Avimore,

It muſt have been a ſingular curioſity; an *unique* in archæological remarks.

The village of Bruir takes its name from Bruir Water; and two falls, particularly beautiful after rain, are deſcribed; but we ſhall prefer ſome other ſpecimen of our author's talents in this department, where the objects are more ſtriking. Blair caſtle is noticed at length, without any great addition to what other travellers have obſerved. The paſs of Killicranky, about three miles from Blair, is the real entrance, on this ſide of Scotland, to the Highlands; and it fortunately occurs to fill a few pages from hiſtory, as does Gowrie houſe in the neighbourhood of Perth.

The banks of the Tay afford ſcenery the moſt beautiful and picturesque; nor can we blame our author for reſting with peculiar complacency on this ſpot; and we leave it for a time with regret, to contemplate the remains of Dunkeld cathedral, Athol houſe, or even Oſſian's hall! We ſhall, however, rather notice the beautiful falls of Moneſs in this neighbourhood, which have leſs powerfully attracted the attention of other travellers.

'We took a guide from Aberfeldie, who conducted us along a path by the ſide of the rivulet, through a deep glen wooded to the top with hazel and birch. The firſt fall is by no means deſtitute of beauty, and we ſhould have thought it an object of conſiderable ſublimity, had we not been lately accuſtomed to ſo much fine ſcenery of this kind. Juſt above this firſt fall, a little rivulet on the left hand precipitates itſelf into the burn, which forms ſome very beautiful caſcades. Croſſing this rivulet, and advancing along the bottom of the glen, we ſoon came to the fineſt part of the ſcenery, conſiſting of three ſucceſſive falls, the height of which is very great. The ſides of the glen or linn, which is called the den of Moneſs, are here ſtupendouſly high, and fringed with trees on each ſide, the branches of which meet and intermingle. As far as can be ſeen, you obſerve the whitened foam falling as it were from the ſky, and, ruſhing down from rock to rock, the water falls with horrid roar into a deep chaſm below. In ſhort, I think that no perſon who views theſe falls will heſitate to pronounce them, in the words of the celebrated Welſh touriſt, "an epitome of every thing that can be admired in the curioſity of water-falls."

'The rocks which form the ſides of this glen are chiefly micaceous ſhiſtus. The grounds lately belonged to Mr. Fleming of Moneſs, but are now the property of the earl of Breadalbane.' Vol. ii. p. 75.

The deſcription of Perth and its neighbourhood is in many reſpects intereſting. The ſituation of the city is beautiful; and we ſhall ſelect our author's account of it.

'We arrived at Perth about ten o'clock, and, after having break-

fasted, we went to take a view of the city, which is one of the handsomest towns in Scotland, and built upon a much more regular plan than any of them, if we except the new town of Edinburgh. It is said to contain twenty thousand inhabitants, which account is perhaps somewhat over-rated, but the common computation, from births and burials, gives between sixteen and seventeen thousand. It is situated on a fine plain, on the west side of the Tay, which is here a noble river; this plain has undoubtedly been formerly the bed of the river, which, like many others, has embanked itself by means of the stones, mud, and other substances brought by its waters. The extensive and rich plain called the Carse of Gowrie, stretching on both sides of the Tay, from Perth down to its junction with the sea near Dundee, and which reminds one of many of the richest parts of the south of England, has undoubtedly, at some remote period, been covered by the river. This is evident from its flat appearance, when viewed from any of the neighbouring eminences, particularly the hill of Kinnoul, or Moncrief hill. The soil being washed away by mountain torrents, which fall with great force into the rivers, begins to be deposited when the velocity of the river decreases, particularly towards the sides, where the velocity is least; by this means the stream becomes gradually contracted, leaving a fine plain of sand and vegetable soil, highly proper for cultivation. In proof of this it may be observed, that the stratum below the soil in this valley consists of sand and rounded pebbles, and that some persons digging a well near Perth, found at the depth of three fathoms below the bed of the Tay, chairs, tripods, and other pieces of household furniture, which must have been deposited there when that part was covered with water, as a great many pebbles, and a quantity of river sand, were found above them.

'Perth is surrounded by, or rather divides a spacious plain, into what are called the north and south inches, each of which measures about a mile and a half in circumference. They have probably been what their name signifies, inches, or islands, when the bed of the Tay was more extensive. These inches are used as public walks by the inhabitants, and likewise as public places for the washing and drying of linen, as is common in many parts of Scotland. The Tay flows here in a direction nearly north and south, but a little below Perth it turns eastward, and is lost behind the hill of Kinnoul. The tide from the German Ocean flows up the river, and reaches about two miles above Perth; the river is navigable to Perth for sloops and small craft, and in spring tides for ships of considerable burthen, which come close to the town.' Vol. ii. p. 92.

The manufactures of Perth are very flourishing: they chiefly consist of 'linen and cotton goods,' the exports of which from the city and neighbourhood were, some time since, of the annual value of 220,000*l*. The trade in leather, and in manufactured boots and shoes, is also very considerable. The value of the exports of the latter is said to be

8000*l.* annually. Four or five thouſand hides, and 500 dozen of calf ſkins, are ſuppoſed to be annually prepared in this city and its environs. The Morriſons are ſaid to print from 30 to 40,000 volumes yearly! Some farther account of Perth is added; but the author has engaged too far in its local hiſtory, which will probably be unintereſting to the readers for whom theſe volumes are chiefly intended.

The view from Kinnoul hill is highly beautiful; but its features are not uncommon, and the principal traits are a delightful river mæandering through a rich vale, occaſionally expanding in lakes, or contracting within more limited banks. The mineralogy of this mountain we ſhall ſelect.

'In my way along the ſide of the hill, I obſerved ſeveral rude baſaltic pillars, and ſome ſtrata, or currents of crumbling lava, in which a few thin veins of calcedony were diſcernible. The foot of the perpendicular rock ſtands upon a ſteep hill, or inclined plane, which is covered with the debris, or looſe fragments of the rock, that are conſtantly falling off, particularly after froſts and heavy rains. The height of the ſummit of this rock above the level of the Tay is 632 feet.

'The greateſt part of this rock conſiſts of lava, in which different layers, or currents, are very evident. Some of it is very compact, but it is generally full of ſmall cells, which have been filled with air bubbles, and reſemble exactly the cells in the flag of an iron foundry. This lava is generally of a grey colour, having a lilac tinge, ſome of it was put into a ſmall crucible, and being placed in the fire of a blackſmith's forge, eaſily melted into a glaſs of a dark purple colour, inclining to black, which was ſo tenacious, that it could be drawn into fine threads, and might undoubtedly be blown into bottles. Immenſe quantities of this lava are lying at the foot of the rock, which ſhow clearly the volcanic, or igneous origin of the hill.' Vol. ii. P. 123.

'Among the debris at the bottom of the hill, are frequently found very fine agates, of the ribbon, fortification, and other figures. This rock has long been famous for theſe, though the mineralogy of it has otherwiſe been little attended to. Several years ago a lapidary from Edinburgh viſited it, and collected all the fine agates he could find; ſince that time, a perſon in Perth makes a buſineſs of picking them up after every froſt or heavy fall of rain; on this account, though I found ſeveral, none were remarkably fine. Sometimes they are found ſticking in a bed of lava, and with a ſmall pocket teleſcope I could perceive numbers of them, in the face of the rock, far above my reach, adhering in this manner.

'I found ſome of theſe pebbles hollow, the inſide being lined with rock cryſtals, and I have one or two ſpecimens in which calcareous cryſtals are incloſed in the middle of the agate; one in-

cloſes a piece of lava, which is a very curious circumſtance. Beſides theſe, nodules and veins of fine calcedony are to be found, in ſome ſpecimens reſembling onyx, and in others approaching in appearance to carnelian.

'In ſome of the currents of lava I found veins of ſulphat of barytes; there are likewiſe maſſes of amorphous ſulphat of barytes, or cawk. The ſame mineral is alſo found in lenticular cryſtals, or what is called coxcomb ſpar. I found likewiſe ſome ſpecimens of tuberous zeolite, and I have one in which a piece of lava is nearly inveſted with this mineral. I met with a conſiderable quantity of chert, or petroſilex, and found a large piece of rock cryſtal, incruſted with calcedony, which is rough and opake on the outſide. This ſpecimen contains within it a great number of cryſtals, if they may be ſo called, but they have a great reſemblance to baſaltic pillars, being pentagonal, and each face touching the other. They ſeem to have been formed by the contraction of the parts, like pieces of ſtarch, and are exactly ſimilar to the pieces of unannealed glaſs called proofs, when broken by a piece of flint dropped into them. Rhomboidal calcareous ſpar is likewiſe met with, and greeniſh coloured ſteatite.

'That the origin of this curious rock is igneous, cannot be doubted, from the greateſt part of it being lava, but how theſe beautiful agates or other minerals have been produced, is perhaps difficult to ſay. Moſt of them, however, appear to have been formed after the flowing of the lava, and I think it moſt probable that the nodules of agate have been produced by cryſtallization in the air-holes of the lava, while it was in a fuſed ſtate, in which ſtate it would continue for a long time, at ſuch a depth from the ſurface. One ſpecimen which I have of a nodule of agate incloſing a piece of cellular lava in its center, exactly of the ſame kind with that which ſurrounds it, ſtrongly ſupports this idea.

'This lava, having flown externally, the formation of baſaltic pillars has been prevented, at leaſt thoſe pillars that are met with are very rude; though there is a conſiderable quantity of whinſtone on the other ſide of the rock, near Mr. Young's houſe, where the lava has cooled more ſlowly.' Vol. ii. p. 124.

The mineral wells of Pitkeathly and Dumbarny, near the banks of the Earne, about three miles from Perth, are ſaid to be chalybeates, but they chiefly contain muriat of lime and muriat of ſoda, without any iron. Loch Leven has been often deſcribed, particularly in the glowing colours of Mr. Gilpin; but the Caldron Linn, about eight miles from Kinroſs, is leſs known.

'Here the Dovan, which we ſaw murmuring along its pebbly bed, ſuddenly enters a deep linn, or gully, and there, finding itſelf confined, by its continual efforts againſt the ſides, has worked out a cavity reſembling a large caldron, in which the water has ſo much

the appearance of boiling, that it is difficult to diveſt one's ſelf of the idea that it is really in a ſtate of violent ebullition. From this caldron, through a hole below the ſurface, the water ſlowly finds its way under the rock, into another circular cavity, in which it is carried round and round, though with much leſs violent agitation. This ſecond caldron is always covered with a foam or froth. From this boiler the water runs in the ſame manner, by an opening in the rock beneath its ſurface, into another, which is larger than either of them, the diameter of it being twenty-two feet. The water in this cavity is not agitated as in the others, but is calm and placid. From this cavern the water ruſhes perpendicularly over the rock, into a deep and romantic glen, forming a fine caſcade, particularly when viewed from the bottom of the glen, to which there is acceſs by a zig-zag path.

'This caſcade is forty-four feet in height, and the rocks which compoſe the linn are about twice as high, ſo that it appears as if the water had worn its way from the top to its preſent ſituation, which moſt probably has been the caſe. It falls in one unbroken ſheet, without touching the rock, and the whiteneſs of the daſhing water is finely oppoſed to the almoſt black colour of the rocks, which are formed of coarſe grained baſaltes. While we were contemplating this beautiful ſcene, the ſun happened to ſhine upon it, and the ſpray which ariſes from it to a conſiderable height, by refracting the rays of light, exhibited the appearance of a luminous vapour, in which the different priſmatic colours were eaſily diſcernible..' Vol. ii. P. 141.

Caſtle Campbell, of which only the ruins remain, was once ſtyled (in the Celtic) the 'Caſtle of Gloom,' ſurrounded by the 'glens of care,' and waſhed by the 'bournes of ſorrow;' expreſſions truly deſcriptive of its gloomy uncomfortable ſituation. The Ochil hills ſtretch from Dumblane far into Fife in an eaſtern direction, and are ſaid to be very rich in metals; but no part is, we believe, at preſent worked.

Stirling and its environs are deſcribed at length. The caſtle is built on the range of rocks, which riſe with a moderate declivity on the eaſt, and end abruptly on the weſt, from the embouchure of the Forth to Dumbarton; but we cannot ſo readily admit that theſe are volcanic. They all contain baſaltic columns; but for this reaſon, among many others, we would deny that baſaltes was the production of volcanoes: theſe rocks are evidently a chain of mountains, and a chain of volcanoes for any great extent is by no means common. In general, the rocks of igneous origin are inſulated and conoidal. In ſhort, we have evidently attributed too much to volcanic fires, and it may well happen, that, verging as uſual to the contrary extreme, we may at laſt attribute too little; but, as we are now correcting former errors, we muſt be cautious leſt we fall into the oppoſite fault.

The town of Stirling contains about 5000 inhabitants, and has been evidently increafing fince the manufacture of cotton was introduced; that of fhalloons is probably not increafing, though 200,000 yards are faid to be annually manufactured here. The palace, the fchool, and the civil government of the town, are copioufly defcribed. A more valuable object is the mofs of Kinkardine, which is thrown into trenches and wafhed thence into the river by the water of the Teath, conveyed into the trenches for that purpofe by a water-wheel. Dr. Garnett affirms that gypfum or lime will render the mofs fit for the reception of vegetables; and that it may be thus gradually converted into a rich vegetable mould. We have often endeavoured to prove that mofs is a living vegetable fubftance, and, in confequence of its deftruction by lime, after previous draining, like all vegetable debris, it muft become a fertile foil.

'Such is the effect of lime in confolidating mofs, aided by draining, though in Mr. Smith's experiments, before thefe operations, it would not bear a dog; often after the fecond, and always after the third year, it can be ploughed and harrowed by horfes, and the crops taken off by carts; when about half a dozen crops have been taken, the furface is converted into a fine rich dark mould, which naturally runs into fweet luxuriant grafs, and though before the mofs is thus improved it would not let for a penny the acre, yet after it has been laid down in grafs, it is worth twenty-five or thirty fhillings.

'The confolidation is fo great, that at the end of five or fix years, if it be laid down with grafs, cattle may pafture without breaking or poaching it. As there is generally a fuperabundance of this vegetable earth in thefe moffes, part of it might be carried off, mixed with lime, and after a proper time thrown upon other grounds, on which it would operate as an excellent manure.

'The potatoes produced from mofs lands are faid to be more free from blemifh than any other, and are always preferred for planting again, to thofe grown on other foils. In Ireland, where the cultivation of potatoes is well underftood, they are generally planted in bogs or moffes.' Vol. ii. P. 62.

The remains and the hiftory of Doune caftle offer nothing very interefting. The account of the village of Doune is more fo. Its piftol manufactory has fallen into difrepute, perhaps by the rifing excellence of other inftitutions; and, in its room, the inhabitants manufacture cotton, and have the reputation of being excellent flaters. The next object of intereft that we meet with in this tour, is the rough uneven ground ftyled the Trofacks. The fcenery is 'wild and romantic; rugged rocks of every fhape furround the road, and, in many places, overhang it. Thefe rocks are almoft covered with heath, and ornamented to the very top with weeping birch.'

It is Glencoe in miniature: the rocks, though ſmaller, are more rugged, and, from their ornaments, are of a different character. They are of argillaceous ſchiſtus, imbedded with veins of quartz, and incline, ſometimes almoſt perpendicularly, to the horizon. Loch Catherine paſſes over ſome parts of this uneven ground, and is conſequently interſperſed with numerous iſlands.

The Campſie hills are bleak and dreary in their aſpect, about 1500 feet above the level of the ſea. In ſome parts there are appearances of ſtrata; and occaſionally thoſe of volcanic fires. They are ſuppoſed to contain copper and lead, but no trials have been made. Cotton manufactures have added greatly to the population and riches of the ſubjacent valley (which contains two villages with excellent grounds for bleaching) and of courſe to its luxuries. Of Glaſgow, Dr. Garnett gives a very imperfect account, referring chiefly to that lately publiſhed by Mr. Denholme. He enlarges, however, on Mr. Anderſon's inſtitution, of which he was the profeſſor, and on the courſe of lectures which he gave, while he continued in that office. In the cotton manufactory in 1791 were 15,000 (in the copy before us it is ſaid 150,000) looms, employing 135,000 perſons, producing goods to the value of 1,500,000l. annually.

At Kilſyth, in the neighbourhood of Glaſgow, on opening the cave of the lady of Kilſyth, the body was found in perfect preſervation, after being buried 80 years. A ſhort deſcription, from Mr. Rennie's account, we ſhall tranſcribe.

'I ſaw the body ſoon after the coffin was opened. It was quite entire. Every feature, and every limb was as full, nay the very ſhroud was as clear and freſh, and the colours of the ribbons as bright, as the day they were lodged in the tomb.

'What rendered this ſcene more ſtriking and truly intereſting, was, that the body of her ſon and only child, the natural heir of the title and eſtates of Kilſyth, lay at her knee. His features were as compoſed as if he had been only aſleep. His colour was as freſh, and his fleſh as plump and full, as in the perfect glow of health; the ſmile of infancy and innocence ſat on his lips. His ſhroud was not only entire, but perfectly clean, without a particle of duſt upon it. He ſeems to have been only a few months old.

'The body of lady Kilſyth was equally well preſerved, and at a little diſtance, with the feeble light of a taper, it would not have been eaſy to diſtinguiſh whether ſhe was dead or alive. The features, nay the very expreſſion of her countenance, were marked and diſtinct, and it was only in a certain light that you could diſtinguiſh any thing like the ghaſtly and agonizing traits of violent death. Not a ſingle fold of her ſhroud was diſcompoſed, nor a ſingle member impaired.

'But no deſcription can give a juſt or adequate idea of the neatneſs or elegance of her appearance. I therefore refer to the ſketch taken by your friend. I have only to lament that his repreſentation was finiſhed chiefly from my deſcription, as at the time you ſaw the body it was much ſullied, and the ſhroud injured: but it is as near the original as I can recollect, or as any pencil can expreſs. I can only ſay it is not a flattering portrait.

'Let the candid reader ſurvey this ſketch; let him recal to mind the tragic tale that it unfolds, and ſay, if he can, that it does not arreſt the attention, and intereſt the heart. For my part it excited in my mind a thouſand melancholy reflections, and I could not but regret that ſuch rudeneſs had been offered to the aſhes of the dead, as to expoſe them thus to the public view.

'The body ſeemed to have been preſerved in ſome liquid, nearly of the colour and appearance of brandy: the whole coffin ſeems to have been full of it, and all its contents ſaturated with it. The body had aſſumed ſomewhat the ſame tinge, but this ſerved only to give it a freſher look; it had none of the gaſtly livid hue of death, but rather a copper complexion.

'It would, I believe, have been difficult for a chemiſt to aſcertain the nature of this liquid; though perfectly tranſparent, it had loſt all its pungent qualities, its taſte being quite vapid. I have heard, however, that ſeveral medical gentlemen carried off ſmall phials full of it, but do not know whether they made any experiments with it. The rich odoriferous flavour continued not only in the vault, but even in the church, for many weeks, as can be atteſted by many hundreds; all agreed that it was a mixture of perfumes, but of what kind it was not eaſy to ſay: the moſt prevalent ſeemed to me to be that of ſpirit of turpentine, and it is certain that this odour continued the longeſt.

'The head reclined on a pillow, and as the covering decayed, it was found to contain a collection of ſtrong ſcented herbs. Balm, ſage, and mint, were eaſily diſtinguiſhed, and it was the opinion of many that the body was filled with the ſame.' Vol. ii. P. 209.

Bothwell caſtle, Hamilton houſe, and the ſurrounding ſcenery, offer nothing particularly new. The fall of Stonebryers, Corra, and Bonniton Linns, do not materially differ from thoſe we have already noticed in ſcenery more appropriate and ſolemn: in the route too of more numerous travellers, they have often been objects of attention, and perſonal obſervation. New Lanark owes its riſing proſperity to the cotton mills; and under the management of Mr. Dale, this uſually unwholeſome occupation, as well as ſource of immorality, has been converted into a ſalutary inſtitution in each reſpect. Of near 3000 children, employed between the years 1785 and 1797, only fourteen have died, ſcarcely more than one in twelve months.

Moffat is famous for its mineral water, which has been more than once analysed. A wine gallon was found, by our author, to contain 36 grains of muriat of soda, ten cubic inches of sulphurated hydrogen gas, four of azotic, and five of carbonic acid gas. The summit of Hartfell is 3300 feet above the level of the sea. He discovered in this neighbourhood a chalybeate also, containing, in a wine gallon, two grains of oxyd of iron, thirteen inches of carbonic acid gas, and three of azotic. The picturesque scenery of Belle Craig, the Grey Mare's Tail, a beautiful cascade in the neighbourhood of Moffat, and Loch Skene, also in its vicinity, employ the concluding pages, but are not sufficiently interesting for an extract or an abridgement.

On leaving these volumes, we must not neglect the ornamental parts, perhaps their chief merit. After carefully examining the 'Observations,' we find little that our author's predecessors have not noticed, few parts which have not been more accurately or more scientifically described; and what we have selected, though we have preferred descriptions in which something was added to the picture, or in which some interesting traits were more fully distinguished, will not always have the charm of novelty. In the engraven views of different parts, Mr. Gilpin also preceded our author; but his plates, in his peculiar style, gave only the general effect. In these respects, Mr. Watts, Dr. Garnett's coadjutor, rises far above the picturesque traveller; and *his* tinted views are often clear, beautiful, and appropriate. To say that they are not always equal, would be to detract little from his praise—'Servetur ad imum qualis ab incœpto' is a rule worthy of observance, but which can seldom be pursued with success. We intended to have closed this article with some minute remarks on the drawings and the engravings; but we found the greater part so well executed, and the defects (often those of the engraver only) so few, that the task would have been invidious. Where apparent errors are discovered, it will be necessary for the critic to attend to the explanation and the object of the draughtsman, as particularly stated by Dr. Garnett. In this we allude to the representation of Fingal's Cave, and some other plates. The list we shall add.

'View from Dalnotter Hill—Dumbarton Castle—Dr. Smollett's House and Monument—Rosedoe—Lochlomond—Map of Lochlomond—Lochlomond, from the Hill above Luss—Loch Loung—Glencroe—Inverary—Kilchurn Castle—Dumstaffnage Castle—Ferry near Oban—Staffa—Bending Pillars in Staffa—Fingal's Cave—Nunnery in Icolmkill—Cathedral and Bishop's House at Icolmkill—College and Cathedral in Icolmkill—Dunolly Castle—Castle Stalkir—Glencoe—Invegary Castle—Upper Fall of Foyers—

Lower Fall of Foyers—Lower Fall of Bruir—Upper Fall of Bruir—York Cascade—Fall of the Tummel—Banks of the Tay—Dunkeld Cathedral—Cascade at Dunkeld—Ossian's Hall—Neil Gow—Taymouth—Fall of Moness—Loch Tay—Perth—Loch Leven—Rumbling Bridge—Castle Campbell—Stirling—Doune Castle—Trosachs—Loch Catherine—Glasgow—John Anderson, M. A. F. R. S.—Lady Kilsyth—Stonebyres—Corra Linn—Moffat—Belle Craig—George Buchanan.'

In the appendix we meet with an account of the life, and in some measure a defence, of George Buchanan. An itinerary is also given in this part of the publication, and a copious index is subjoined.

Practical Observations on the Revelation of St. John. Written in the Year 1775. By the late Mrs. Bowdler. 8vo. 5s. sewed. Robinsons. 1800.

THE book of Revelation is treated with great neglect by the majority of Christians. The difficulties attending the explanation of several visions mentioned by the inspired writer of the Apocalypse tend to preclude the acquisition of those advantages from this part of scripture which its insertion into the canon must lead a pious Christian to expect. The teachers of Christianity indeed are highly criminal when they neglect this work; for how can their leisure be better filled than in comparing events as they are recorded in history with the predictions of them in the book of Revelation, and, from the fulfilment of prophecy in many instances, in opening the door to future discoveries? The more unlettered Christian, not having these advantages of leisure and of books, must be content with a more imperfect view of Revelation: if he cannot so clearly see the dispensations of Providence in the history of the church, it is still in his power to note the corruptions described by the apostle, and to be on his guard against them, by whatever worldly authority they may be supported. In this respect the present work claims a considerable degree of attention. The authoress does not pretend to give an historical solution of every vision: she does not aim at unravelling every mystery; but she points out those general remarks which are interspersed throughout the Revelation, conveying instruction and spiritual improvement to the reader.

Some of her explanations we cannot receive without hesitation. The mark of the beast is not, she thinks, to be looked for in the church of Rome; and the name of blasphemy refers to an apostasy which cannot, she thinks, be affirmed of the popish religion. On the contrary, the two witnesses are, in

her opinion, 'types of the two great portions of the Chriſtian church divided into eaſt and weſt, or (as now called) the Greek and Latin churches:' they do not ceaſe, however injured by corruptions, to bear teſtimony to Jeſus; their death, or the ſeeming deſtruction of the whole Chriſtian œconomy, will occaſion great joy to unbelievers; and their 'revival will coincide with the preaching of the angel, and will ſeem to be the ſame thing; viz. the converſion of the Jews and the revival of the Chriſtian faith.' There is ſomething plauſible in this idea; yet the ſplendor of the Greek and Roman churches in the dark ages can hardly correſpond with the type of witneſſes clothed in ſackcloth and aſhes.

But, if we cannot agree with the authoreſs in this and ſome other explanations of the prophecies, we highly approve the inſtruction ſhe points out from the images introduced by St. John. As a ſpecimen, our readers will be pleaſed with her reflections on the beaſts.

'In the deſcription of our enemies, the beaſts, &c. we ſee thoſe vices we ought to avoid. In the firſt beaſt, that is, the antichriſtian kingdom itſelf, we find treachery expreſſed by the leopard, ſullen obſtinate cruelty in the bear, and fierce active rage in the lion; all characters too readily to be pointed out in the tyrannic empire which has been ſuppoſed to be here repreſented. In the ſecond beaſt, or ruler of this kingdom, we find hypocriſy in the aſſumed character of the lamb, and deceit of every kind in the falſe miracles. Nothing can be more truly antichriſtian than theſe diſpoſitions; more oppoſite to Chriſt, whoſe meekneſs and ſimplicity, whoſe truth and unbounded charity, it is our glory to imitate. The reſtraint on buying and ſelling, that is, on all the enjoyments of life, which none are allowed to partake of but thoſe who receive the mark, ſhews the rapacious covetouſneſs and proud oppreſſion of theſe rulers; and how needful the warning of our bleſſed maſter, that we ſhould forſake all that we have, and take up the croſs and follow him.

'In the company attending the lamb with a ſong peculiar to themſelves, is ſet forth the great reward of undefiled innocence, and of that child-like ſimplicity ſo expreſsly recommended by our bleſſed Saviour.' P. 162.

Her reflections on the laſt judgement are judicious, and prove that ſhe had imbibed from the ſtudy of the Revelations juſt notions of that great and important event.

'Such is the ſcene, whether real or ſymbolical, which the laſt chapters of this book ſet before us. In preſence of this awful court, as here repreſented, perhaps, the whole hiſtory of mankind will be rehearſed; the cauſes and effects of natural events will be explained; the actions and the moſt ſecret thoughts of all men be

revealed; and the conduct of divine providence be fully justified. Perhaps (since every idle word must be accounted for, though not in itself criminal) our foolish thoughts, our vain conceits of our own merit, those artful disguises by which we endeavour to deceive men, will here be manifested before all, for the eternal confusion of the impenitent, and to fix in the minds of those that shall be saved an humble sense of their own weakness, and an unbounded confidence in the wisdom, power, and goodness of their God. We are apt in this life to excuse our faults as unavoidable; our sins appear always trifling, if they do not rise to the highest pitch; if free from theft, from murder and adultery, we think we may be allowed even to account ourselves righteous; while, perhaps, those criminals whom our laws condemn, may seem less guilty before God than than those who, without any sense of gratitude, enjoy the blessings with which Providence entrusted them for the benefit of mankind. All sins are not alike criminal; but I doubt we are very unfit to weigh the difference; he who indulges malice in his heart, and by pitiful contrivances endeavours to hurt another, would probably, under different circumstances, have been led on to poison or assassinate his enemy. She who spends her whole thoughts on dress, and endeavours to allure mankind to admire her, only to gratify a foolish vanity, to triumph over her fellows, and indulge more freely an unbounded love of pleasure, has sometimes less right to boast of her chastity, than the poor, deceived, forsaken wretch, who earns her bread by prostitution. The studious or active philosophers, who, by their pursuits of knowledge, are grown insensible to the temptations of pleasure and ambition, too often indulge a great degree of pride, and laugh at the men of the world, whom they allow themselves to despise, only because they cannot taste or attain to the same enjoyments. The man who is wholly engaged in purchasing riches, is seldom disturbed by the pursuit of power or pleasure; those who plod on in domestic life, without considering its extensive duties, are often more engrossed by attention to a few shillings than others are in getting pounds; and these last, while they see no great faults in themselves to be amended, suffer their hearts to grow hardened to the wants of others, their tender feelings to lie unemployed, and devotion to sink into a dull lifeless habit. We know our hearts cannot be concealed from God; but it might be of use to many of us to consider the day of judgment in the light in which this book seems to place it, as a general review of whatever has passed here on earth, bringing to light every motive of action, every thought of the heart, and even every idle word, as our Saviour expressly says; and all this in the awful presence of Christ, of his holy angels, of those just men called to sit with Christ on his throne, and of our fellow criminals, whose frowns and whose laughter we have stood in awe of here below, so far as often to sacrifice to such considerations our duty towards God, our faith, the rights of truth and justice, and the peace of a quiet conscience.

'The severity of this scrutiny does not, I suppose, consist in the bringing every idle word to punishment, as of itself criminal, but in bringing it forth to be exposed to censure; the trial is severe; the sentence will no doubt be merciful.

'The intent of this severe inquest is, to justify before the whole world the righteousness of God; to make known his glorious attributes; to convict the wicked and exalt the just, and to humble those who exalted themselves here below, and were content if by any art they could conceal their imperfections; that now, acknowledging their own misery and the justice of their judge, they may be fitted to obtain mercy.

'This representation of things (as I have said upon other occasions) may, if we please, be considered as a picture, not as a reality; but let us consider at the same time that it is a picture of something that will be real; a picture by which we are to be instructed; and let us therefore think on every occasion, what our feelings would be in the presence of such a tribunal; and whether any "fiery trial" could go beyond it? Whatever is meant thereby, the scene is truly sublime and awful, and lifts the imagination above those things, which so fully engage the affections of most men here below.' P. 170.

We offer these extracts to show that the study of the Revelations may be very profitably pursued, though it may not end in a perfect knowledge of ecclesiastical history; and we are happy in being able to recommend a work which may with advantage be put into the hands of young clergymen, as an excellent introduction to the more laborious investigations of Vitringa, Daubuz, Mede, Jurieu, Towers, Bicheno, and others, with whose writings it is incumbent on them to make themselves acquainted.

The History of the Thirty Years' War in Germany. Translated from the original German of Frederic Schiller, Aulic Counsellor, and Professor of Philosophy at Jena, by Captain Blaquiere, of the Royal Irish Artillery. 2 *Vols.* 8*vo.* 12*s.* *Boards.* Miller. 1799.

THE idea of 'a thirty years' war' must shock every feeling heart. A philosopher may at first suppose that none but savage tribes, or pagan communities, could have carried on such a war: but, on recurring to the experience of history, he will find that the most enlightened nations have been almost as prone to war as the most rude and uncivilised. How are we to account for this strange propensity? Some may answer, that the brutality of the lower classes of the people, who are more swayed by passion than influenced by reason, will

folve the difficulty: but this allegation is insufficient, as wars are more frequently produced by the pride and ambition of princes than by the folly or rage of the people. Though education enlarges the mind, and enables it to perceive the absurdity and wickedness of a licentious indulgence of the passions, man is so inconsistent, that he suffers the theory of virtue to give way to the practice of vice; and reflecting that he cannot be perfect, he is the less eager in his endeavours to correct his imperfections. The high and the low, the prince and the peasant, are in different degrees the slaves of their passions: so powerful are the operations of these natural agents, that good sense and philosophy are too frequently unable to make effectual resistance. If one nation should be so prudent and moderate as to avoid offensive war, a neighbouring community may not be equally wise or humane; and, from the ambition of the latter, hostilities may arise, which the former must endeavour to repel. Upon the whole, we have little reason to expect that war will soon cease among mankind; for benevolence and humanity have not kept pace with the improvement of nations in arts and sciences, or with the progress of exterior refinement.

From these reflexions, which were suggested by the title of the present work, we proceed to an examination of the history itself. All our readers may not recollect, that the war of thirty years arose from the combined influence of religious dissensions and political ambition; that it commenced in Bohemia in 1618; that it extended its ravages over a considerable part of Europe, and was terminated by the celebrated treaty of Munster. It displayed the courage and talents of several heroes; and this circumstance, in the opinion of many, may compensate the destruction which it occasioned. It also evinced the ill effect which war has in brutalising the minds of men, as it exhibited some scenes of deliberate barbarity, at the mention of which every reader who has the least trace of humanity must feel strong emotions of horror and disgust.

Schiller, before he relates the incidents of the war, traces the effect of the Reformation on the principal states of Europe, and particularly mentions its progress and influence in Germany. He proceeds to treat of the divisions and disturbances which it produced in Bohemia, and exhibits a just view of the politics of the European courts at the beginning of the war.

The bigotry and ambition of the emperor Ferdinand II. are reprobated by our author; but, in general, he seems too partial to the memory of that despot. Gustavus Adolphus is praised and admired with more justice, though some parts of his conduct are censured. The Imperial general Wallenstein is frequently brought forward; and the features of his cha-

racter are pourtrayed with spirit. Of his style of living, after his dismission from his command, we find the following account.

'His intentions were by no means fixed on repose while he returned to a private station. In his solitude he was surrounded by a regal pomp which appeared to reproach his degradation; six gates led to his palace in Prague, and a hundred houses were demolished in order to clear the surrounding space. Similar palaces were built upon his numerous estates; gentlemen of the first families sought the honour of seeing him, and Imperial chamberlains were known to deliver up the golden key in order to exercise that duty under Wallenstein; he maintained sixty pages, who were instructed by the most able masters; his antechamber was protected by fifty lifeguards; his table never consisted of less than a hundred covers, and his house-steward was a person of distinction; when he travelled, his suite and baggage were carried upon a hundred waggons, drawn by six and four horses; his court followed him in sixty coaches, attended by fifty led horses; the magnificence of his liveries, the splendour of his equipage, and the decorations of his apartments, were in proportion; six barons and as many knights continually attended his person; twelve patroles went their rounds in his palace, to prevent any disturbance; his busy genius required silence; the noise of coaches was not permitted near his residence, and the streets leading to it were often shut up with chains. His deportment was no less impenetrable than his access; dark, reserved, and profound, he was more sparing of his words than his gifts, and the little that he spoke was uttered in unamiable accents; he never smiled, and the coldness of his temperature withstood all sensual gratifications. Ever occupied by the most extensive schemes of ambition, he rejected those idle dissipations in which others spend the best part of their time; a correspondence throughout Europe he managed himself, and the greater part of his letters were written by his own pen.' Vol. i. p. 218.

Count Tilly, who succeeded Wallenstein in the command of the Imperial army, rendered his name infamous by his atrocious cruelties. He is thus characterised by Schiller.

'Equally strict towards his troops, implacable towards his enemies, and of as impenetrable a disposition as Wallenstein, he far exceeded the latter in probity and disinterestedness. A bigotted zeal for religion, and a bloody spirit of persecution, united with the natural ferocity of his character to render him the terror of the protestants. A strange and terrific aspect betrayed his disposition; of low stature; meagre, with hollow jaws, a long nose, a broad forehead, large whiskers, and a sharp chin. He commonly appeared in a Spanish doublet of green satin, with close sleeves, and a small high-crowned hat, decorated with an enormous red feather, which reached down as far as his back. His whole aspect recalled to re-

collection the duke of Alva, the ſcourge of the Flemings, and his actions were far from effacing that impreſſion.' Vol. i, p. 248.

In eſtimating the loſs of men in the battle of Leipzig, the hiſtorian diminiſhes the number of the Swediſh victims to a ſmaller number than the generality of accounts have mentioned. It is more probable that fourteen or fifteen hundred of the troops of Guſtavus fell on the occaſion, than that he only loſt ſeven hundred.

The reflexions on the victory obtained by the Swedes at Leipzig, and on the ſubſequent conduct of Guſtavus, will ſerve as a ſpecimen of Schiller's ſtyle of remark.

'The glorious victory of Guſtavus Adolphus had effected a great change in the conduct of that monarch, and in the opinion which both his friends and his enemies entertained of him. He had confronted himſelf with the greateſt general of the age, and, by the force of his tactics and Swediſh valour, conquered the Imperial troops, the beſt in Europe. From that inſtant he relied upon himſelf, and ſelf-reliance has ever been the parent of great actions. Had not Alexander's impetuoſity triumphed upon the Granicus, never had that conqueror overturned the Perſian empire. Bolder and more dexterous meaſures were henceforward obſerved in the operations of the Swediſh king; greater reſolutions, even under unfavourable circumſtances, more defiance towards his adverſaries, greater mildneſs to his friends, and forbearance towards his enemies. His native courage was alſo augmented by his piety. He readily confounded his own cauſe with that of Heaven; and beheld in Tilly's defeat the work of divine vengeance. His crown was now riſked upon German ground, which had for centuries beheld no foreign enemy. The warlike diſpoſition of its inhabitants, the vigilance of its numerous princes, the artful confederacy of its ſtates, the multitude of its ſtrong caſtles, and the courſe of its rivers, had hitherto reſtrained the ambition of its neighbours; and when attacked upon its extenſive frontier, it was ſtill ſecured in its interior. At the moſt remote periods this empire maintained the equivocal prerogative of being its own enemy, and of being ſecured againſt every foreign force. It was alſo the want of union among its members, and an intolerant zeal for religion, which now procured the Swediſh conqueror an entrance into its territories. The bond of harmony was already diſſolved, which had rendered this empire hitherto invincible; and it was from Germany itſelf that Guſtavus Adolphus acquired the power of ſubjecting it. With prudence equal to his courage, he ſeized the favourable moment; and equally expert in the cabinet as in the field, he employed the reſources of a conſummate policy with as much effect as the thunder of his cannon. Uninterrupted, he purſued his victory in Germany, without once loſing ſight of his own dominions.

'The conſternation of the emperor, and of the Catholic League,

could not exceed the astonishment of the Swedish allies at the king's unexpected good fortune. His exploits surpassed even the most ardent expectations. The formidable army which had checked his progress, set bounds to his ambition, and rendered him dependant upon his friends, was now annihilated. Single, and without a competitor, he appeared in the midst of Germany; nothing could stop his career, or interrupt his pretensions, were he, even in the intoxication of success, inclined to abuse his victory. If the emperor's authority was formidable in the commencement, equal fears might now be entertained, from the impetuosity of a foreign conqueror, for the constitution of the empire, and, from the zeal of a protestant king, for the catholic church of Germany. The distrust and jealousy which had for some time subsided in the minds of several of the combined powers towards the emperor was now rekindled, and scarcely had Gustavus Adolphus merited their confidence, when they began to oppose obstacles to his designs. He was obliged to purchase his victories amid a continual struggle with the artifice of his enemies and the jealousy of confederates: but his resolute courage and deep penetration overcame every obstruction.' Vol. ii. p. 5.

The progress of the Swedish monarch is related by our author with more succinctness and animation than by Harte, the dull historian of that hero. The battle of Lutzen, in which he fell, is described in terms suited to the occasion. The account of an imperial officer who was mortally wounded in the same conflict, will remind our readers of a modern warrior, equally brave, and not less inhumane. The death of Pappenheim was

' an irreparable loss for the Imperial army, which this excellent warrior so often led to victory. The battle of Prague, at which he was colonel, together with Wallenstein, opened his career. Dangerously wounded, he impetuously threw himself with a few troops upon an enemy's regiment, and lay several hours for dead under his horse in the field, until his own party discovered him while they were plundering. He conquered the rebels of Austria, though 40,000 strong, with a small detachment, in three different battles; he long delayed Tilly's defeat at Leipzig by his bravery, and carried the victorious arms of the emperor to the Elbe and to the Weser. His impetuous disposition, which defied every danger, and was capable of any attempt, rendered him the most powerful arm in the Imperial army; but he was unfit for the supreme command. The battle of Leipzig was, according to Tilly himself, lost by his hasty ardour. He also stained his hands in blood during the storming of Magdeburg. His disposition, which had been improved by his youthful application and numerous travels, had grown ferocious under arms: on his forehead two red streaks were perceptible, with which nature had marked him at his birth: these appeared when-

ever in a paſſion, even in his later years; and ſuperſtition eaſily perſuaded itſelf that the future calling of the man was marked upon the forehead of the child.' Vol. ii. p. 159.

The myſterious conduct of Wallenſtein after the battle of Lutzen is not clearly explained; and his treaſon is deemed problematical by the preſent writer; but its credibility ſeems to be eſtabliſhed on ſtrong grounds.

The remainder of the hiſtory is too conciſe to be ſatisfactory; and no account is given of the progreſs of the intereſting negotiations which put an end to the war. This deficiency, ſo lamented by the admirers of Schiller, was the conſequence of the decline of his health.

Upon the whole, this hiſtory does not diſcredit the reputation of Schiller. It is written in a pleaſing manner: the characters are well drawn; and the incidents appear to be faithfully recorded, though the want of references may ſeem to give the narrative a doubtful air. The tranſlation we do not admire. It may, in many parts, be pronounced erroneous, if we may be allowed to judge without having ſeen the original; and the ſtyle is frequently very remote from correctneſs.

Biographiana. By the Compiler of Anecdotes of Diſtinguiſhed Perſons. 2 *Vols.* 8*vo.* 10*s. Boards.* Johnſon. 1799.

THE *ana* of the French, of which the author has made great uſe, evidently gave riſe to this publication. The anecdotes will amuſe a leiſure hour; and they are interſperſed with many judicious remarks, both on perſons and books. We could have wiſhed that ſo great a compliment had not been paid to the works of the French nation as to look ſo cloſely into their writers for inſtances; and if in the margin references had been made to the authors from whoſe publications the anecdotes are taken, the indolent reader might have been led to a good courſe of hiſtorical reading. Among the anecdotes we were happy to ſee recorded the noble conduct of lord chief juſtice Holt, which ought to live in the memory of every Engliſhman, as on the complete ſeparation of the judicial and deliberative powers depends a great part of the excellence of our conſtitution.

'In the reign of queen Anne, 1704, ſeveral freemen of the borough of Ayleſbury had been refuſed the liberty of voting at an election for a member of parliament, though they proved their qualifications as ſuch. The law in this caſe impoſes a fine on the returning officer of 100l. for every ſuch offence. On this principle they applied to lord chief juſtice Holt, who ordered the officer to be arreſted. The houſe of commons, alarmed at this ſtep, made an

order of their houſe to make it penal for either judge, council, or attorney, to aſſiſt at the trial: however, the lord chief juſtice, and several lawyers, were hardy enough to oppoſe this order, and brought it on in the court of king's bench. The houſe, highly irritated at this contempt of their order, ſent a ſerjeant at arms for the judge to appear before them; but that reſolute defender of the laws bade him, with a voice of authority, be gone; on which they ſent a ſecond meſſage by their ſpeaker, attended by as many members as eſpouſed the meaſure. After the ſpeaker had delivered his meſſage, his lordſhip replied to him in the following remarkable words: "Go back to your chair, Mr. Speaker, within theſe five minutes, or, you may depend on it, I'll ſend you to Newgate. You ſpeak of your authority; but I'll tell you I ſit here as an interpreter of the laws and a diſtributor of juſtice *, and were the whole houſe of commons in your belly, I would not ſtir one foot." The ſpeaker was prudent enough to retire, and the houſe were equally prudent in letting the affair drop.' Vol. ii. P. 541.

The compiler ſpeaks with more than uſual warmth of the character of Burnet; but we were pleaſed at his zeal for the memory of that prelate.

'The prejudice and the raſcality of party has attempted to traduce this excellent prelate's character. He appears to have been a man of true piety and virtue, though occaſionally a ſlave to his credulity. When in reſidence at his ſee of Saliſbury, he preached every Thurſday night in St. Thomas's church in that city. What can be conceived more impreſſive and more ſolemn than the concluſion of his hiſtory? what ſtronger arguments can be uſed in favour of religion, of virtue, and of patriotiſm, than thoſe he has there made uſe of? and his appeal to the conſciences of his readers is one of the moſt ſtriking and ſolemn paſſages we have in our language. It was printed ſeparately in 12mo. in 1751, by Mr. Millar, and in theſe times of laxity of principle, and of fluctuation of opinion reſpecting government, it ſhould be again preſented to the notice of the public.' Vol. ii. P. 522.

'Indeed, the whole of this addreſs may, excepting a few political notions not applicable to theſe times, be peruſed with great improvement by all thoſe who wiſh to ſee the advantages of a peaceful government, of excellent morality, and of a proper ſenſe of religion, pourtrayed in the ſtrongeſt and moſt vivid colours.' Vol. ii. P. 525.

'* It ſeems ſtrange that the right of voting at elections, like all other rights, ſhould not be decided in our courts of law. The deciſion would be ſpeedier, attended with leſs trouble and waſte of time, the proceſs would be more dignified and ſerious, and the judgment pronounced with greater ſolemnity by perſons uſed to evidence and legal deciſions on all points.'

An excellent trait in the character of George the Second is described with true spirit, and deserves imitation in courts and private families.

'He was much displeased when his civil list happened to be in arrear. This, however, occurred in Mr. Pelham's administration, and he sent for that minister in a great passion, and asked him how this happened. He was told that the money appropriated to that service was wanted for more important purposes at that time. "Mr. Pelham," said he, "I will not be the only gentleman in England whose servants are not paid; and if you will not get me the money to pay them, somebody else shall." Vol. ii. p. 550.

The characters of Dr. Farmer and Warren Hastings are drawn with judgement; and, if there is rather too strong a bias in favour of the former character, the partiality of friendship may be pleaded as some excuse for it. The violence of party having now subsided on the celebrated trial of the latter, and the ravings of Mr. Burke being treated with the contempt which all his party writings and speeches deserve, the account here given of the governor of India will be read by many with great pleasure. It is too long for us to extract; but we will extend our limits to insert the account of one man of whom there are still found Englishmen not ashamed to be called the disciples. This is the celebrated M. Le Chauve, or John Calvin.

'Bucer is said to have told this violent and persecuting reformer, "You judge as you love, or as you hate; and you love or hate, as you think fit."—No very honourable account of the candour and temper of this acute and learned man!

'Greater praise was, however, given to his power of memory; "which," according to Beza, "was so great, that he never forgot a person whom he had once seen; and that although he should have been interrupted in the course of his dictation of any thing for many hours, he could return to it as perfectly as if the chain of it had never been broken. Indeed," adds he, "he never forgot any thing which he had ever entrusted to his memory. I speak of such things as it was his duty to remember. His mind was eager and ardent, and therefore received every impression made upon it in a forcible manner. Calvin was like many other persons, who claim for themselves that liberty they deny to others. He caused Servetus to be burnt for differing in opinion with him on religious matters; and afterwards wrote a book, with this title: 'A faithful Account of the Errors of Michael Servetus, and a Refutation of them;' in which it is shewn that heretics should be punished with death."

'Had Calvin's doctrine been put in practice against himself by the Catholic party of France, he never would have been able to have exercised it upon Servetus.

'Calvin, the learned, the presumptuous Calvin, in his commentary on the scriptures, passed by the Apocalypse, giving as a reason, according to Bodin, "that he was not able to understand any thing in so obscure a writer, whose name and history had not been settled by the learned."

'Calvin dedicated his "Institutes of a Christian" to Francis the First, in which he addresses him with that freedom with which a prejudiced and persecuting prince should be treated. Joseph Scaliger said of Calvin, "That he was the greatest divine that had ever appeared since the days of the apostles." Happy indeed had it been for him and his disciples had they imitated the apostles, no less in their gentleness than in their wisdom; and had the dove and the serpent been united in their character.' Vol. i. p. 57.

A singular anecdote of the Jesuits presents us with the means of forming the best estimate of that pernicious society.

'Of the superior intelligence that prevailed among the order of the Jesuits, the following anecdote has been often mentioned by an English gentleman in Lincolnshire: "He had resided some time in Portugal, and was at dinner at the English minister's, when he was called out of the parlour by a person who insisted upon speaking to him, and who told him, with great earnestness, and in a tone of voice not to be counterfeited, 'You must fly this country immediately, and get on board a ship bound for England. I have very cogent reasons for giving you this advice, which I cannot give you now; but I hope, from the bottom of my heart, you will follow my advice.' The gentleman did as he was desired; and many years afterwards, walking in the streets of Wisbech, in the Isle of Ely, he observed a butcher's servant dressing a calf with the utmost niceness and dexterity. The butcher looked very earnestly at him; and the gentleman said to him, 'I think I have seen your face before.'—'So you have, Sir; and if you will go out of the high street into a private place, I will tell you where.' The gentleman did as he was desired, and was soon followed by the butcher; who said, 'Do not you remember, Sir, a person who gave you some remarkable advice at Lisbon?—I am that person. You had said something against the inquisition of that city, and the officers of it were in search of you; I gave you that notice in consequence of some friendly office you did to one of my society (that of the Jesuits) at Rome. A kind action, any more than an unkind one, that is done to any of our order, is never forgotten, and we keep registers to record them.'" Vol. i. p. 63.

By these extracts our readers will be enabled to form a just estimate of the work, which may excite young persons to a more regular course of study, and amuse the student by recalling to his memory his own remarks on history.

Observations on the Effects of various Articles of the Materia Medica in the Cure of Lues Venerea, illustrated with Cases. By John Pearson, Senior Surgeon of the Lock Hospital, &c. 8vo. 14s. Boards. Callow. 1800.

WHEN the minds of practitioners have been prepossessed in favour of a new remedy, by novelty, fancy, or accidental success, experience only can destroy the delusion, and the real value of the remedy must be ultimately appreciated by calm observation, independent of eager predilection, or an equally injurious prejudice. It is fortunate for mankind when this period arrives, and we can examine the disputed question on a secure foundation. On the present subject much has been done by Mr. Pearson. If, in some points, he has not completely met our ideas, and if, in others, different practitioners should still hesitate, we have no scruple in saying, that he has made a very considerable progress in ascertaining the real importance of many boasted remedies in the dangerous and distressing complaint of which he treats.

It gives us pleasure to hear, that Mr. Pearson intends to offer the result of his very extensive experience on this disease in general; and we find that he adopts the opinion which we long since published in this journal, that the lues did not originate in America. The effects of two medicines for this disorder he is now investigating by experiment, viz. the oxydes of copper and of iron: the result of this inquiry we shall receive with pleasure; for though we think with Mr. Pearson, that mercury is the only real remedy for this disease, there are some situations in which it is inadmissible, some constitutions with which its use cannot be continued, so as to ensure success. Other remedies are therefore at times necessary; and should any be found that would, even for a time, palliate the disease, or for a short period prevent its progress, the discovery would be valuable. In this view we considered the introduction of the nitrous acid as an important improvement; for we never expected from it a cure; and to this merit it still appears to be chiefly entitled.

The introduction contains the general views of the earlier practitioners on the subject, and particularly their methods of curing the disease by evacuations, by active and robust exercise, vegetable diet, &c. Though many directions of this kind have been copied into respectable works, we may affirm that these plans will be unsuccessful. Mr. Pearson represents the guaiacum as unequal to the cure of the complaint, though it will sometimes suspend the primary and secondary symptoms, and sometimes appear even to remove them. The chief use of the guaiacum is to relieve the contractions of the joints, and

other sequelæ of the disease; but, even in these, our author has not found it more advantageous than any other sudorific. When it is used with the mercury, he thinks it does not materially assist the action of the mineral, or expedite the cure.

Of the China root, the reputation is so inconsiderable, that practitioners in general disuse it. Of the sarsaparilla others entertain (and we own ourselves of the number) an equally unfavourable opinion. Mr. Pearson is more partial to it. It will not, he thinks, remove the primary or secondary symptoms of syphilis, or cure any form of the disease: it will not lessen the quantity of mercury necessary for the cure, or expedite its progress. Yet, after a course of mercury, sarsaparilla will remove articular swellings, nocturnal pains, &c; but these are the effects of the disease, not syphilis itself; for the real disorder will, when present, not be influenced by the remedy, though it seems to abate the violence of some symptoms, and retard the progress of others. These latter effects we have never found; but think we have seen all the good consequences attributed to sarsa from the mezereum, which Mr. Pearson represents as a medicine in every respect inferior.

The Peruvian bark, though not generally recommended as an antisyphilitic remedy, will, as our author truly observes, often remove venereal mortifications, and check the progress of ulcers, in cases where mercury has been used. We have often found it serviceable; and, in our hands, the bark has produced all the good effects we could obtain from opium. Mr. Pearson is of opinion that this last remedy cannot be trusted in the cure of lues; or that, when given with mercury, it only prevents the disagreeable effects of the mineral, without adding to its efficacy.

The cicuta, sassafras, juniperus, bardana, saponaria, and dulcamara, are of little real value as antivenereal remedies. Of the green rind of the walnut our author speaks with more respect, but chiefly as increasing the virtues of the Lisbon diet-drink. The lobelia syphilitica and astragalus escapus have not, from experience, supported the high characters with which they were at first introduced. The volatile alkali, lately recommended, in our author's opinion, acts only as a sudorific; and fever, which is supposed occasionally to suspend, or to remove the effects of syphilitic virus, according to Mr. Pearson's experience, has no such power. The muriated barytes he found almost useless.

Mr. Pearson next considers the efficacy of several boasted preparations of mercury, and particularly traces the progress and fall of the corrosive sublimate with much candour. He prefers the mercurial ointment, giving calomel or the calcined mercury, which he seems to think more useful, in order to bring on the effects of the mineral more rapidly, or to guard

againſt relapſe. The remarks on ſome of the effects of mercury are particularly valuable; and the whole of this part of the work fully coincides with our own experience.

The two firſt mineral acids ſeemed to check for a time the progreſs of the diſorder, and to remove the ſecondary ſymptoms; but the nitrous certainly removed, in ſome caſes, the primary ſymptoms, and appeared to prevent the ſecondary. Yet our author thinks that this acid never effected a permanent cure where ſecondary ſymptoms were preſent. Sometimes it has altogether failed. It is, however, in his opinion uſeful as a tonic, and may be employed with advantage when mercury cannot for a long time be continued.

On the whole, we are highly ſatisfied with Mr. Pearſon's obſervations, and cannot too ſtrenuouſly recommend them to the particular attention of practitioners: the oldeſt and moſt experienced may derive information from this little work.

Rambles through Ireland; by a French Emigrant. Tranſlated from the French of Monſieur de Latocnaye, by an Iriſhman. 2 Vols. 12mo. 6s. Boards. Robinſons.

THE writer of this work made a tour through Ireland on foot; and for the honour of that country it may be obſerved, that he was received, notwithſtanding the ſmallneſs of his wardrobe, with great hoſpitality by moſt of its beſt families. Hence he had an opportunity of being well acquainted with the manners of the people. At one time he ſpent his day in the villa of a nobleman, at another he paſſed his night in the meaneſt cabin. Many of the reflexions which he makes during this tour do honour to his heart and head, though he thinks it neceſſary to uſe a few oaths as expletives, from a prepoſſeſſion very common with foreigners, that ſwearing is an eſſential part of a polite Engliſh education. Some of his anecdotes are given with great *naïveté*; and the Iriſh cannot but be pleaſed that their national character is placed in a higher point of view than ſuits the prejudices of the Engliſh coloniſts. We riſe up from a peruſal of this work with a more full conviction that all the evils of Ireland have ariſen from a ſingle cauſe, the want of union between the Engliſh ſettlers and the deſcendants of the original natives, which has ſubſiſted for ſo many ages, from the ignorance of the true intereſts of both parties. Had the conquerors and conquered been permitted to coaleſce from the firſt, and the latter been admitted to the full participation of all the civil rights of the former, they would be now as much attached to the Engliſh conſtitution as the Welſh and Scots, and it would be as difficult to diſunite them as it is now to perſuade even ſome of the Engliſh

colonists of the wisdom, or rather absolute necessity, of an union.

Our readers may be amused by some instances of our author's manner of telling his story. He was witness to the riot which occurred at the commencement of the session of parliament in 1796, when two

'handsome young women were so much alarmed, that they threw themselves into our arms. When I looked at her who had taken refuge in mine, I gave her a warm embrace, merely to encourage her: the Englishman, on the contrary, put his hands on his pockets. This trait may perhaps serve to characterise both nations.' Vol. i. p. 12.

His remark on the mode of supporting hospitals, both in England and Ireland, is natural in a foreigner.

'I do not like to see the succour given to the poor depend thus upon the caprice and whim of the day. If it was not the fashion to subscribe, what would become of these establishments?—They were formerly supported by land-rents, but they were deprived of them by the Reformation, and some rich families took possession of them, in order to prevent the dilapidation, of which the administrators were accused.' Vol. i. p. 36.

If it was not the fashion to subscribe, that is, if it was not the fashion of the nation to be humane and generous! but, by continued opportunities of being fashionable in real good, the humanity and generosity of the nation daily increase; and, if a few are beneficent from ostentation, multitudes practise benevolence from a sense of honour, duty, and religion.

We recommend the reflexions of this stranger to the inhabitants of Cork, who, by his account, have more to do than the inhabitants of any other place for their own comfort, and for that of all who visit them. His mode of governing the Irish is not to be despised, and, at any rate, deserves a trial.

'These priests have great influence over the people; they are, in a great measure, judges, and decide all disputes with astonishing precision. It would be dangerous to displease them, or to refuse to pay their scanty pittance. Government knew their power, and yet have made enemies of them by ill treatment. The right method of gaining over the people would be to gain over the priests. I am convinced that a dozen fat benefices in favour of catholic priests, at the disposal of the lord lieutenant, would soon make them as supple, as courteous, and as studious of pleasing, as their dearly beloved brethren, the bishops and ministers of the protestant church.' Vol. i. p. 192.

The Irish, it seems, preserve among them a very old custom, which is universal among the Russians. Near Enns-

kellen our traveller found the ſweating-houſes, of which he gives the following deſcription.

'The reader muſt, I ſuppoſe, be at a loſs to conceive what they mean by a ſweating-houſe; figure to yourſelf an oven five or ſix feet high, and about three broad, exactly reſembling a thimble, and into which people get by a round hole on a level with the ground, and a foot and a half in diameter.

'This oven is heated with turf, as if for baking; when it is very hot, four or five perſons quite naked contrive to get into it through the hole, which is then ſtopped up with board, plaiſtered over with dung. Theſe wretches remain five or ſix hours in this ſtove, without being able to get out; for even though ſome of them get ill, they would not take down the board before the uſual time. They are ſcarcely in when they are covered over with a profuſe perſpiration, and are generally much leaner when they are going out than when they had come in. Wherever there are five or ſix cabins together, you may be ſure of finding one of theſe ſtoves; and the peaſants make uſe of them, whatever their complaint be.' Vol. ii. P. 87.

The writer's account of the beſt ſociety in the Britiſh empire is judicious.

'A ſtranger, who wiſhed to become acquainted with the inhabitants of the three kingdoms, and to ſee the beſt of them with reſpect to information and politeneſs, ſhould get himſelf introduced to the merchants of London, the lawyers at Edinburgh, and the nobility and rich gentry at their country-ſeats in Ireland.' Vol. ii. P. 172.

On the antiquities of this country are ſome good remarks; and the whole may ſerve to amuſe a leiſure hour much better than many works of the kind. But we are ſorry to add, that the tranſlation is extremely faulty, and that diſgraceful negligence is viſible in almoſt every page. We ſhould be glad to ſee the book in a better Engliſh dreſs.

A Tranſlation of the Table of Chemical Nomenclature, propoſed by De Guyton, formerly De Morveau, Lavoiſier, Bertholiet, and De Fourcroy; with Explanations, Additions, and Alterations: to which are ſubjoined, Tables of ſingle Elective Attraction, Tables of Chemical Symbols, Tables of the preciſe Forces of Chemical Attractions, and Schemes and Explanations of Caſes of ſingle and double Elective Attractions. Second Edition, enlarged and corrected. 4to. 14s. Boards. Johnſon. 1799.

THOUGH this is profeſſedly a ſecond edition only, it is in many reſpects a new work. It is not merely a tranſlation

of the new Nomenclature, but a correct and valuable abſtract of the whole ſcience. The utility of connecting, with the tables of nomenclature, thoſe of ſingle and double elective attraction, as the arrangement of the new nomenclature diſplays ſo great a number of attractions, muſt be ſufficiently obvious. To theſe, with equal propriety, are added tables of the preciſe force of chemical attractions between different ſubſtances, and caſes of double elective attraction, with various methods of illuſtrating their mode of agency. We alſo find a table of ſymbolical characters, the ſhort hand of chemiſtry. Such tables, indeed, are eſſential to the underſtanding of ancient authors; but we could have wiſhed that a table of ſymbols ſtill more ancient had been added: ſeveral authors employ ſymbols wholly their own; and we are ſurpriſed that the elegant ſymbols of Dr. Black were omitted.

We have followed this ſubject from the earlieſt innovations in the French annals, noticing Mr. St. John's firſt tranſlation in our LXVth volume; Dr. Pearſon's firſt edition in Vol. X. New Arr.; and Dr. Dickſon's improved Chemical Nomenclature, in which a dry ſubject of verbal diſquiſition is enlivened by many pleaſing philological remarks, Vol. XXIII. New. Arr. It is now our duty to give ſome account of thoſe improvements which render this edition one of the moſt important chemical works that we have lately ſeen.

The firſt part is enlarged with the limits of the ſciences, rapidly extended ſince the appearance of the firſt edition. Some judicious obſervations are interſperſed on Dr. Dickſon's remarks, and ſeveral new appellations are '*proviſionally*' introduced. On theſe we need not enlarge, or reply to the criticiſms of Mr. Keir on the new nomenclature, who ſtill ſeems to hold faſt the falling (more properly the fallen) ſyſtem of Stahl, while the experiments of Dr. Prieſtley, in ſupport of the phlogiſtic theory, continue unchanged.

An analyſis of the chemical nomenclature, propoſed by Dr. Dickſon, follows, with the author's reaſons for ſtill adhering, *on the whole*, to the ſyſtem of the French academicians. Inſtances of pſeudography and falſe proſody are ſubjoined.

The explanation of the tables of elective attraction, and the diagrams, illuſtrating double elective attractions, &c. as before mentioned, next occur. The author adds his reaſons for the alterations and additions, becauſe they are occaſioned by the progreſs of chemical ſcience. This of courſe leads to ſome account of the later diſcoveries. The tables are thoſe of Bergman, now for the firſt time publiſhed in Engliſh, in the language of the new nomenclature. From the explanation, we ſhall extract the following paſſage, where many important facts are judiciouſly compacted and comprehenſively deſcribed.

'It appears thar ſtrontian, like baryt, attracts firſt ſulphuric, and nex oxalic, ſtronger than any other acids; but it otherwiſe differs from this earth in the order of attractions. Strontian differs from lime and magneſia, inaſmuch as theſe two earths have the ſtrongeſt attraction for the oxalic acid. It is to Dr. Hope we are in debt for this column. Tromſdorf, I believe, is the only perſon who has aſſerted, that ſtrontia attracts ſulphuric acid ſtronger than baryt, contrary to Kirwan and Hope. To the diſtinguiſhing characters of this earth, muſt be added the lately diſcovered negative properties of ſtrontia water and lime water, and of ſtrontia and baryt water, on mixture, producing no precipitation, which is inſoluble immediately in muriatic acid; whereas a precipitation enſues, on mixing baryt water with lime water. It appears alſo, that muriate of baryt, mixed with muriate, or nitrate of lime, produces a precipitation; but none takes place on mixing muriate or nitrate of baryt, with muriate or nitrate of ſtrontian. Farther: ſtrontia is diſtinguiſhed from magneſia, inaſmuch as muriate, or nitrate of magneſia produces a precipitation, on mixture, with muriate or nitrate of baryt; but muriate or nitrate of ſtrontia produces no ſuch precipitation, on being added to muriate or nitrate of baryt, (Kirwan's Appendix to Mineral Waters, 1799.) I find Bergman long ago obſerved, that a precipitation was produced, on adding nitrated lime to nitrated magneſia, (Elec. Attract.) Quatremere d'Iſjonval alſo obſerved a ſimilar precipitation, but the Engliſh tranſlator of Bergman's Elective Attractions, p. 322, rejects his evidence even in moſt contemptuous terms. I have introduced theſe obſervations, not only on account of their novelty, and ſerving to diſtinguiſh ſtrontia from other earths, but alſo for the opportunity of explaining why I have called theſe tables, Tables of Precipitations, apparently by ſingle elective attractions. It now appears moſt probable, that many precipitations, on which are founded the ſeries of attractions in the different columns, are caſes of triple or even quadruple compounds: at leaſt it has not been ſhown that many of them are not ſuch compounds. The term ſingle elective attraction is unjuſt alſo on another account, viz. that the decompoſitions are ſcarce ever effected without the interpoſition of a fourth, or even a fifth ſubſtance, eſpecially of calorific and water.

'The 2d new column, viz. the 38th, is for the new metallic acid, the chromatic, which I thought much too important to be omitted, although the order of its attractions is eſtabliſhed only for three or four bodies, which we owe to the ſkilful Vauquelin (A. C. tome 25.)

'It appears that this red acid contains about two thirds of its weight of oxygen—that on parting with a certain portion of oxygen, even to light, it becomes a green oxide. The chromatic acid unites to earths, alkalies, the oxides of lead, copper, &c. It precipitates lead from nitric acid, regenerating red-lead ore. Chromate of veg-alkali, and nitrate of lead, or of copper, give chromate of lead, or

of copper, and nitrate of veg-alkali. Muriatic acid triturated with chromate of lead, precipitates the red crystals of chromatic acid, or green chromatic oxide, according to the quantity of the muriatic acid used. Chromate of veg-alkali, with nitrate of mercury, gives cinnabar-coloured chromate of mercury; and with nitrate of silver it gives chromate of silver of a carmine red. We are in debt to Vauquelin for these facts. Chromatic acid is not only found united to lead, but also to iron, as citizen Tassaert informs us (An. Ch. T. xxx. p. 220.) By alternately melting the ore of iron which contains this acid, with veg-alkali, and treating the melted mass with nitric or muriatic acid, the whole was changed into chromate of veg-alkali and muriate of iron.' P. 136.

From the additions to the columns, we shall add one other extract.

'Carbon. The new system has manifested this to be one of the most important chemical agents hitherto discovered, although we do not know that it has a chemical attraction for more than five or six different substances, viz. for oxygen, hydrogen, sulphuret of alkali, iron, and perhaps zinc. It can be precipitated from æther and alcohol by sulphuric acid; from carbonic acid, by the joint affinities of phosphorus and lime or alkali; from olefying gas, by inflammation with oxygen gas; from prussic acid, by light; in short, from all animal and vegetable mucilages and oils, by acids or fire: but we know not the precise attractive powers in these cases. It was till Guyton's fine experiments on the diamond (A. C. tome xxxi. p. 112.) supposed that the black matter, known by the name of charcoal, was a simple or elementary substance, the radical of carbonic acid. It is now rendered probable, that it is an oxide, consisting of the matter of the diamond and oxygen; that it is the diamond matter oxygenated in the second degree; that the diamond oxygenated in the first degree yields an oxide difficultly combustible, similar to plumbago and anthracolite of Dolomieu; and that the diamond oxygenated in the third degree gives the carbonic acid. The only simple state of carbon known is the diamond. Sir Isaac Newton inferred, from the density and refrangibility, as is well known, that this substance was inflammable. Guyton, as early as 1785, Lavoisier, and Landriani, showed that, on burning in close vessels, or on fusion with nitre, it yielded carbonic acid. Berthollet, in his Treatise on Dyeing, considered it to be crystallized charcoal. Our very ingenious countryman, Mr. Tennant, afforded additional and decisive proofs that the diamond contains charcoal; for he actually exhibited it in that state, by decompounding the carbonic acid afforded by its combustion. The account of the experiments of De Guyton, just arrived, exhibits a prospect of the richest field in chemistry which has been laid open since the discoveries of the composition of water, and of carbonic acid. Indeed, the knowledge of the composition of carbonic acid is only completed by the

difcovery of the three different degrees of oxygenation of the diamond as above-mentioned. In the table of nomenclature, then, ftrictly, in place of carbon, the diamond fhould now be inferted, and carbon be placed among the oxides of diamond.' P. 151.

Tables from Mr. Kirwan's late publication, containing the quantity of real acid taken up by 'mere alkalis and earths,' and converfely the quantity of alkalis and earth required to faturate given quantities of 'real fulphuric, nitrous, muriatic, and carbonic acids,' are added at the end. We cannot difmifs this work without our warmeft commendations. Among all the additions made by Dr. Pearfon to the progrefs of fcience, he cannot boaft a greater merit than in this attempt for its advancement.

Grecian Profpects: a Poem, in Two Cantos. By Mr. Polwhele. 8vo. 2s. 6d. Chapple.

THE intereft which is excited by any mention of Greece, the fource of literature and philofophy, places an author in a hazardous predicament. Intrinfic genius would be farther ennobled by its fubject; while the vexatious difappointment of the warmed imagination might thruft mediocrity even beneath its proper eftimation. Aware of this, we have been cautious in our verdict of this poem, which, having apparently coft its author great labour, is probably the object of a high degree of parental affection.

The analyfis prefixed to the poem informs us, that one half of it comes from the mouth of a Welch bard, the other half from the guardian angel of Greece—perfonages very fit to affume the fpirit of prophecy which runs through the poem, though not fo confiftently fettered by the operofe ftructure of a ftanza, in whofe nine lines but three terminating rhymes are admitted. Hence even the Hudibraftic allowance of 'one for fenfe and one for rhyme' is not always adhered to; and where this involution of ftructure has not produced a riddle, it has left pure unconnected nonfenfe, very much refembling the manufacture of the lower claffes of fchool-boys from their well-thumbed Gradus ad Parnaffum. The author alfo, like them, has hunted for variety of epithet, and has thus contrived to deviate fufficiently from common phrafeology and common fenfe. But fuch dignified labours of our poet are not to be wafted even when they are abortive: he has therefore more than once (p. 15 and 18) favoured his readers with the confidential fight of the rough draught of his poem. What his judgement urged him to fupprefs, his vanity could not confign to oblivion; and the ridiculous compromife has been effected by ob-

truding his crude stanzas at the bottom of the page. Thus also a spurious canto (if two half-cantos make a whole one) is annexed under the title of a postscript. 'It was detached from the poem, from a suspicion of its being defective in the unities; though in a vision a strict regard to the unities can hardly be judged essentially requisite.' In this tale the Grecian isles are 'represented as in a general ferment, from the insults and barbarities of their savage masters' the French, who, being 'sworn foes to nuptial song,' carry away the bride of a young Greek. The Greeks in consequence revolt; and the British fleet is introduced to complete their triumph. If unfounded slander of the French, and unfounded praise of the English, be repugnant to truth and justice, something more solid than the poetic unities is offended by this feeble fiction.

We extract some of the earliest stanzas.

' From Cambria's wizard hills a hallow'd bard
 Travelling o'er Greece, had nurs'd the heroic muse;
Each classic isle survey'd with fond regard,
 And caught, at every step, sublimer views:
 'Twas now, in Sappho's vivid groves, the dews
Of eve, he welcom'd to his mantling breast;
 Gaz'd the wide landscape, here, with breded hues,
There, in the dark attire of shadow drest,
And seem'd to taste the breeze that cherishes the blest.

' High on a tower, that overtopp'd the trees,
 His wild harp whispering a congenial sigh,
He ravish'd inspiration from the breeze,
 As stretch'd afar, beneath a golden sky,
 The varied mountains charm'd his wandering eye;
Blue-tinctur'd points, white rocks at random flung,
 That sparkled thro' the pine-wood's duskier dye;
Chasms yet unsun'd, where founts descending rung;
Green slopes, with blossoms veil'd, with melting fruits o'erhung.

' Thro' a bold opening of the mountains, gleam'd
 The deepen'd azure of the Egean wave;
And, far off, where the western radiance stream'd,
 The isles, as all in motion, to deceive
 The eye, with every surge appear'd to heave
Their flushing cliffs, now faded from the sight;
 When from the dream poetic fancy gave,
The bard awoke—a dream of short delight—
And view'd the illustrious scene fast sinking into night.

" So (cried the poet) so, imperial Greece!
 Thy closing honours vanish'd into shade;
Tho' not, alas! so calm'd by halcyon peace,
 With not a tint to soothe the soul, array'd!

No! as thy proud effulgence 'gan to fade,
The sick day struggled o'er a lengthening waste;
Thy marble fanes in one wide ruin laid;
Mingled with common earth each work, that grac'd
Or wisdom's solemn lore, or fine pictorial taste.

" Once, where the Pallas of high Athens view'd
Each massy tower, each decorated dome;
See the rent arch, the hoary cornice strew'd,
As sculpture moulders in Cimmerian gloom;
Tho', yet a moment, where thro' meadowy bloom
Ilyssus, murmuring, wash'd the bowers below,
The sage, in sighs, may paint his sweetest home,
Still o'er his path as planes their umbrage throw,
And streams, to fancy dear, in lingering lapses flow.

" Lo, where o'ercanopied in Doric state,
Her Phidias' art the Athenian goddess crown'd,
And thro' revolving ages sternly great,
Thro' all her shadowy pomp of columns, frown'd;
Till cold neglect to briars that twin'd around
Each fretted base, resign'd her temple's fame;
'Till late, the blacken'd fragments smote the ground,
As jealous Adria, with ill-omen'd aim,
Whirl'd thro' the shivering walls the fierce sulphureous flame.

" And lo! the dome that crumbles into dust,
Whose Parian whiteness lur'd the glowing skies;
Which breath'd from every animated bust
That dasht amid Corinthian foliage lies,
The hero-spirit of some great emprize!
And, featur'd with the traits of grandeur past,
While thro' its fractur'd roof rank weeds arise,
See to the winds of heaven their temple cast;
Its monumental voice, re-echoing every blast,

" Majestic Athens! Who, thy ruins pil'd
In aweful heaps surveys, nor drops a tear?
Who dares approach, by fancy unbeguil'd,
That space, where genius wont its scene to rear,
And dart thro' horrent crowds the illusive fear,
As torches trembled, or as daggers bled,
And sounds not human met the shuddering ear?
Who, thro' the pictur'd porch, unheeding, tread,
Nor conjure up in sighs the philosophic dead?" P. 7.

The stanza of Spenser is peculiarly unfit for Mr. Polwhele's poetry. His language is never perspicuous, and sentences in which the syntax is perpetually inverted must be difficult in proportion to their length. In common with some other writers, Mr. Polwhele seems to believe that poetry should be

as unlike profe as poffible, and that it ought to aftonifh the ear by its ftrangenefs of conftruction, as well as delight it by its harmony.

> Haud longum tales ideo lætantur, et ipfi
> Sæpe fuis fuperant monumentis, illaudatique
> Extremum ante diem fœtus flevere caducos,
> Viventerque fuæ viderunt funera famæ. VIDA.

The moft valuable part of this publication is contained in the notes, which convey fome mifcellaneous information. However, much needlefs obfcurity is defignedly left in the text, to force recurrence to the notes, and gratitude to the author. Of this vicious ftage trick the note refpecting Achilles in the following ftanza is a fpecimen.

> "And, haply, if her more endearing wreath
> Calm peace hath braided round the fpoils of war,
> The reeking blade while ruffians yet unfheathe,
> Shall Athens o'er difpeopled Gallia dare
> Roll, with impetuous wrath, the kindling car,
> And Scyros * hurl the brand, as once fhe hurl'd;
> Tho' maiden vefts ftill hide the martial air †;
> And Tenedos announce her fails unfurl'd—
> Their truft ‡, yon guardian fleets, that awe, yet blefs the world!"
> P. 45.

'* Una omnis Scyria pubes, Succedunt tecto, et flammas ad culmina jactant. En. II. 477.

'† I had, at firft, written,

> "Tho' yet her veil'd Peiides flumber there."

Which is a clear allufion to the ftory of Achilles, as there concealed; though not, perhaps, fo ftrong a picture of the martial difpofition of the inhabitants, now fuffered gravi torpere æterno, and difguifed under the appearance of effeminacy.

> "To Ilion's towers each hero bent his way,
> But, loft in foft difguife, Achilles lay:
> Midft Lycomedes' lovely train, he figh'd;
> The fleece, for arms, in fweet delirium ply'd;
> And ftole, amid his labors of the loom,
> The virgin languifh, and the virgin bloom."
> See Bion's Epithal. of Achilles.

"‡ A Grecian ftate, the free and independent ally of Britain and Ruffia, will form a connecting link in the focial bond of commerce; will be fitted by the favourablenefs of its fituation, and the genius of its inhabitants, for bold and fuccefsful enterprife; and, in fine, will quickly obtain a proud pre-eminence among the nations."—Eton's Survey, p. 439. The Greeks, fince the publication of Mr. Eton's book, have been called upon to unite, in one common caufe, with the Englifh, the Ruffians, and the Turks. And the Greeks, perhaps, will have occafion to rejoice at the termination of the war, on the ceffion of their country to Great Britain; when Ruffia and Turkey fhall emulate each other, in manifefting their gratitude to Britons, for refcuing their refpective empires from the grafp of barbarians. Such an arrangement, if it coincide not with the plans of the politician, would be highly gratifying to the imagination of the poet.'

The concluding note contains a very extraordinary anticipation of the emulous gratitude of Russia and Turkey to Great-Britain, for rescuing their respective empires from the grasp of barbarians. In the author's estimate of barbarism we should not be surprised to see France sunk beneath Russia: but that Turkey can be farther barbarised by an irruption of the French is an opinion which can only arise in an intellect distorted by political fanaticism.

MONTHLY CATALOGUE.

POLITICS, &c.

Strictures upon the Political Parties in the City of Edinburgh; together with a Statement of authenticated Circumstances and Facts, which merit the particular and immediate Attention, both of the honourable Magistrates, and all the Inhabitants of that City. By a Friend to the Public. 8vo. 1s. Ogle. 1800.

THE magistracy of Edinburgh is, according to this writer, distinguished by 'its loyalty and attachment to the king and constitution, by its unchangeable attachment and absolute submission to the right honourable secretary of state, the representative of the city of Edinburgh in parliament, and by a principle of selfishness.' Some of the city politics of Edinburgh are laid open, which must be uninteresting to the generality of our readers: but, if it is true, as this author asserts, that 'the city books of finance are unintelligible, that the cash-book is so conducted as not to be intended to be understood, that immense debts have been contracted without regard to the want of funds for repayment, that the ecclesiastical revenues and the funds appropriated to the poor have been misapplied, and that 1500 pounds have been levied from the city without legal authority,' some measures ought to be taken to rectify such enormous abuses of power; and, on the other hand, if there is no foundation for such charges, the character of the magistracy should be vindicated by a plain statement of facts. The work presents itself in such a manner, as if the writer was well acquainted with the politics of Edinburgh; and his statements bear the appearance of authenticity: but on these matters it is not our office to decide; and we can recommend the work to the magistrates only for the general remarks made on their duties, and the improvements suggested for the future management of their town.

Observations on the Produce of the Income Tax, and on its Proportion to the whole Income of Great Britain. A new and corrected Edition, with considerable Additions respecting the Extent, Commerce, Population, Division of Income, and Capital of this Kingdom. By the Rev. H. Beeke, B. D. 8vo. 3s. 6d. sewed. Wright. 1800.

Very considerable additions are made to the work, of which we gave an account in our XXVIth Vol. N. A. p. 463; but the basis remains the same. The author has diminished his commercial profits by 1,500,000*l.* below his former statement, in which he seems to us to be right, though many apprehend that the great cause of the failure of the income tax arises from the inaccurate returns of those who are engaged in commerce. He retains his opinion of the scale in the income bill, of which he observes, 'that, by some inadvertence or misapprehension, the present progression of the scale is exactly the reverse of what in theory it ought to be.' In reality, it arose from both these causes; from inadvertence in not attending to the effects of an arbitrary scale; from misapprehension of the real nature of taxation, as defined by the persons themselves who framed the bill. There are many important remarks interwoven on the changes which take place in property, exemplified in the rise of some and the depression of other classes; but whatever pride we may take in the present pre-eminence of this country, its effects will be seen by the next generation. The old race of landholders is gradually disappearing, to make way for a new set of proprietors raised by the moneyed interest, and by the contracts or offices under the present immense national expenditure. The country gentleman possessing from 400*l.* to 800*l.* a year, can no longer maintain his former respectability; and, when almost all classes are engaged in some moneyed speculation to increase an income, we are afraid that the associations in their minds will not be very favourable to religion, morality, literature, or liberty.

Consolatory Thoughts on Taxation or Contribution, in Three Letters to a Member of the House of Commons. By the Author of Thoughts on Taxation, and a New System of Funding. 8vo. No Price or Publisher's Name.

It is very consoling, indeed, that the 'national debt would itself afford a source of supply,' and that, without the 'practice of funding introduced by king William, we should never have arrived at our present state of prosperity.' The former assertion we do not believe; and we do not doubt, that, if *cæteris paribus*, the pernicious system of funding, or that wretched system by which the old merchants of London have been converted into a new generation of mere brokers and money-jobbers, had never been introduced, commerce would be greater, agriculture more flourishing, the farmer, the country-gentleman, the tradesman, would all be in happier circumstances.

Thoughts on the Letter of Buonaparte, on the Pacific Principles of the laſt Speech of Mr. Fox. By a Suffolk Freeholder. 8vo. 1s. Bickerſtaff. 1800.

The Suffolk freeholder affects wit, and aims at delicate irony. He ſays, for inſtance, 'it is earneſtly to be hoped, but, I am afraid, not much to be expected, that the people of this country, tired at laſt of a war, which has no other object than the reſtoration of the Bourbon family, to oppoſe which we have incurred half of our debt, and to ſupport which the remainder, will recall our Cincinnatus, or rather Linnæus, from his retirement, and inveſt him with the prerogative which has been ſo long abuſed.'—We ſhall only add, that theſe 'Thoughts' do not indicate the man of ſenſe, the ſcholar, or the politician.

Subſtance of the Speech of Thomas Jones, Eſq. M. P. on his Motion for Peace, made in the Houſe of Commons, May 8, 1800: *with a Copy of the Addreſs moved for by him to his Majeſty.* 8vo. 1s. 6*d.* Debrett.

The motion made in the houſe of commons on the 8th of May laſt, for a negotiation with the French republic, and dereliction of the unjuſt 'and impracticable purpoſe of reſtoring the houſe of Bourbon, and the ancient government of France,' was ſupported by ten votes. It was introduced by the ſpeech before us, which, if deficient in ſtyle and arrangement, proceeded evidently from a perſon actuated by principles of conſcience, and by the beſt wiſhes for the good of his country. Mr. Jones ſupported the war when it was juſt and neceſſary: he now recommends peace, becauſe it appears to him that we are engaged 'in an unjuſt, an unneceſſary, and an impracticable purſuit.' He thinks that the miniſters are fighting merely for the ſake of the Bourbon family; and, if they are not, he deſires to know 'for what object on earth the people of England are groaning under an unprecedented and inquiſitorial ſyſtem of taxation.' Among the topics diſcuſſed in the ſpeech, we were ſorry to obſerve it maintained, that 'we have in fact re-elected the pope, and at this moment the papal banner waves in triumph its proclamation of the re-eſtabliſhment of the Romiſh faith to its numerous adherents, ſcattered over the face of the earth.' The re-election of a pope under proteſtant auſpices would be a greater diſgrace to a proteſtant country than any defeat by ſea or land; and whatever may be the fate of the papal power, we hope that authentic documents will hereafter free our nation from any imputation of wiſhing it ſucceſs—a wiſh equally repugnant to the laws of the land and the ſpirit of Chriſtianity. Annexed to the ſpeech are ſeveral extracts from the ſpeeches of the king, and addreſſes to the throne. Among the latter is one preſented by the commons in 1689, which is a curious contraſt to the ſtrange opinions now entertained of the French monarchy. Our

abhorrence of modern French principles does not lead us to a fondness for their old principles; and both may be ſtigmatiſed with equal reaſon as jacobinical; but the horrors of French anarchy make many forget the cruelty and the vices of French monarchy.

RELIGION.

The Publications of the Religious Tract Society. 12*mo.* 1*s.* 9*d.* *Boards.* Williams. 1800.

With the laudable view of promoting the cauſe of religion, a ſociety was formed, under whoſe auſpices this volume has been publiſhed. It contains twenty-ſeven tracts, which may be had ſeparately; and the firſt is a very judicious treatiſe on the advantages reſulting from the diſtribution of ſimilar publications. It is, indeed, an eaſy way of doing good to our neighbours, and one in which almoſt every perſon may uſefully contribute his mite. The rich, by ſubſcribing to the ſociety itſelf, or by purchaſing the volume, and ſelecting and diſtributing the tracts which meet with their approbation, cannot fail of rendering eſſential ſervice to their poor neighbours. We heartily approve the plan; and if there are ſome things which we could wiſh to ſee corrected in a few of the tracts, the choice given to ſerious perſons countervails ſuch little defects, and is likely to render the ſociety, in the preſent corruption of manners, a beneficial inſtrument in the hands of Providence for the diffuſion of better principles.

The predicted Stability and Permanence of Chriſtianity, illuſtrated by Hiſtoric Teſtimony. A Sermon, delivered at Salters-Hall, November 3, 1799, *to the Supporters of the Sunday-Evening-Lecture at that Place; and publiſhed at their Requeſt. By Thomas Morgan.* 8*vo.* 1*s.* Johnſon.

The prediction of our Saviour on the anſwer of St. Peter to his queſtion reſpecting the opinions entertained of his character by the people, affords an occaſion to the preacher of making ſeveral very ſolid, judicious, and intereſting remarks on the hiſtory of Chriſtianity, from its origin to the preſent time. The permanence of the rock on which the true church of Chriſt is built cannot be doubted by any ſerious Chriſtian; and the infidel who indulges in ſarcaſtic humour, inſtead of argument, may here ſee a full though ſhort confutation of his inſignificant objections to our faith. Many human erections on the rock, whether ornamented with gold and ſilver, apparently ſtrengthened by maſſy ſtones, or covered over with unſeemly thatch and ſtraw, will diſappear either from the attacks of enemies or the negligence of their ſupporters; but the true church, conſiſting of good men in every part of this earth, and juſt men made perfect hereafter, is a ſociety againſt which death and hell ſhall never prevail.

The Name, 'Lord of Hosts,' explained and improved, in a Sermon, preached in the Chapels of Prince's Street, Westminster, on February 16, and Essex-Street, Strand, on February 23, 1800, by Joshua Toulmin, D. D. Published at earnest Request. 8vo. 1s. Johnson.

Infidel writers have endeavoured to confound Jehovah, Lord of Hosts, in the sacred Scriptures, with the furious and insensate god of war of the ancient mythology. This error, it seems, has crept into the sermon of a Christian divine; and Dr. Toulmin has with great propriety restored the original meaning to an epithet by which the great creator of heaven and earth is in the Old Testament designated. To level the creator of those hosts worshipped by the ancient world with the subordinate god of war, is a degradation which we should have thought would never have escaped the pen of a Christian minister. The propriety of the term is well explained in the work before us; and the proper reason is given why it is so frequent in the Old, and is used only twice in the New Testament. Since Sabæism has declined, it is less necessary to point out God as the creator with his emblems of power; his character of love and of father endears him the more to the Christian world; and in this character it should be the aim of every preacher, imitating St. John's Epistles, to represent him to his audience.

A Sermon, preached at the Parish Church of St. Mary, in Beverley, on Wednesday, March 12, 1800, being the Day appointed for a General Fast. By the Rev. Robert Rigby, Vicar. 8vo. 6d. Scatcherd.

This 'unworthy minister' was requested by some of his parishioners to print the excellent discourse before us, which he preached on the last fast-day. It is a plain and serious call to every man to rend his heart as well as his garments on such a solemnity. Here is no palliation for our own vices, or exaggeration of those of our enemies. The war is considered as a dreadful evil; and from its continuance, as well as the apprehension of scarcity, 'it necessarily follows that our repentance has not been sincere, and that we labour under the guilt of some great national sin.' The preacher affirms, and, indeed, without being uncharitable he may safely affirm it, 'that licentiousness and extravagance, an insatiable love of pleasure, and an impatience of discipline, too strongly mark the character of the times.' But the great evil to which he alludes (and, indeed, notwithstanding the reiterated complaints from the pulpit of the prevalence of infidelity abroad, it may be brought home to this country) is 'the want of a religious principle, a disregard to God and the gospel of Christ.' To this he imputes the levity, profaneness, debauchery, neglect of the sabbath, increase of fanatical preachers, and neglect of family prayer, which are now so general; and he exhorts all to change these vices for the contrary virtues, becoming their Christian profession.

Christ Crucified, the grand Theme of Paul's Ministry; illustrated in a Sermon, preached at the Baptist Monthly Meeting, August 22, 1799, at Mr. Hutchings' Place of Worship, Unicorn-Yard, Southwark. By James Dore. 8vo. 1s. Gurney.

This is an animated discourse on the peculiar doctrine of the Christian religion, the great manifestation of divine love to mankind through our Saviour's blood shed on the cross—a theme too much neglected not only by those who are termed rational Christians, but by Christians of other denominations. In a discourse so well calculated to make an impression on an audience, we regretted that its attention should be drawn aside to the tenets of a peculiar sect of Christians, and the more so, as the doctrines of the Christians termed 'rational' are misrepresented. We disapprove the use of this term, and the appropriation of it to any sect; but, whatever may be the merits or demerits of that sect, it is too bold an assertion to say that they expunge from their system the atonement by the death of Christ, or that they are ashamed of the cross.

A Sermon, preached at St. Magnus, London-Bridge, on Easter-Day, March 24, 1799. By David Gilson, M. A. &c. Published at the Request of the Parishioners. 8vo. 1s. Darton *and* Harvey.

This is a discourse wrought up with a considerable mixture of skill and fancy. If we do not find in it that simplicity and energy which impart the truest beauty to style, there is no deficiency of playful imagination, and the thoughts are pleasing, sometimes striking. We give the preacher full credit for his good intentions, and throughout we discover traces of his piety; at the same time we confess that we should have read his sermon with greater pleasure, if there had not appeared to us an affectation of shining, and a glitter of expression. The language which becomes the pulpit needs not such charms, nor can divine truths come more strongly recommended to our attention than when conveyed in the chaste and perspicuous effusions of a heart deeply sensible of their high importance.

CHEMISTRY, MINERALOGY, &c.

The Chemical Pocket-Book, or Memoranda Chemica, arranged in a Compendium of Chemistry, according to the latest Discoveries, with Bergman's Table of Elective Attraction, as improved by Dr. G. Pearson. By James Parkinson. 12mo. 5s. *Boards.* Symonds.

When we lately observed that a daily expanding science could rarely be completed with accuracy in a summary, we were aware of the exception in the present volume. Mr. Parkinson has collected, very completely, the various chemical facts, and arranged them in general with great propriety. The only errors of arrangement seem to have arisen from discoveries made in the progress of the work; and observations have been inserted, not in their best

place, rather than in a miſcellaneous collection and addenda. On the whole, this little work merits our higheſt approbation, as equally accurate, perſpicuous, and elegant.

Journals of the Royal Inſtitution of Great Britain. Number I. April 5, 1800. 6d. Cadell *and* Davies.

This firſt number of the Journal contains an enumeration of the objects of the ſociety, and the propoſals for the future publications. The chief object is the diffuſion of chemical and philoſophical knowledge, with its application to the moſt uſeful purpoſes. We ſincerely wiſh well to this judicious and patriotic attempt, and of the ſociety we may ſay, with a ſincerity of zeal, *Eſto perpetua.*

Elements of the Natural Hiſtory and Chymical Analyſis of Mineral Subſtances, for the Uſe of the Central Schools. Tranſlated from the French of Mathurin James Briſſon, Member of the National Inſtitute, &c. 8vo. 4s. Boards. Walker. 1800.

Theſe Elements contain the outline of the ſcience of natural hiſtory, in clear comprehenſive language. But ſome recent diſcoveries, particularly that of the chromè, which influences the analyſis and the appearance of many of the precious ſtones, are not introduced. This work does not preclude the uſe of the Mineralogical Dictionary which we lately recommended.

A New Syſtem of Mineralogy, in the Form of a Catalogue, after the Manner of Baron Born's Syſtematic Catalogue of the Collection of Foſſils of M. Eléonore de Raab. By William Babington, M. D. &c. 4to. Phillips.

Dr. Babington publiſhed, about five years ago, a Syſtematic Arrangement of Minerals in the form of tables, which we noticed in our XVIIth Vol. N. A. p. 117. We there tranſcribed his advertiſement, which contains the motives and object of the work. This advertiſement is nearly copied in the preſent continuation of the ſame deſign. The former publication conſiſted of the ſcience of mineralogy in the form of tables. The preſent work contains the definitions and analyſes more fully, and is an abſolutely eſſential addition to the Syſtematic Arrangement; for, as in that work more ſatisfactory accounts were often neceſſary, ſo in this we greatly want the comprehenſive view which tables only can afford. In examining the ſyſtem before us with ſome care, we find much (we ſometimes thought too much) attention paid to external forms; but we ought not to forget, that the combination of external characters with analyſes can alone render a mineralogical ſyſtem complete, and that we have always recommended this union. On the whole, this new ſyſtem is well executed. The few novelties which diſcovery has ſupplied may well be added in a ſhort appendix, as we obſerve no omiſſions in what was before known. In another

edition the tables may be combined with the present work, and the novelties since added to the stock properly interspersed. Even in this form our author's system will, in a great degree, supply the want of a mineralogical dictionary, as the index is correct and full.

An Essay on the Nature and Connection of Heat, Electricity, and Light. By Alexander Anstruther, Esq. of Madras, Barrister at Law. 8vo. 2s. Murray *and* Highley.

Mr. Anstruther endeavours to show, that caloric is the same with electricity, and that both are light, or that light is a modification of these principles. As this essay was written during a voyage, the position could not be supported by numerous facts of his own, or of other authors; but, as some of his opinions are new, more pains should have been taken in securing the foundation. It is by no means clear, for instance, that when bodies assume gaseous forms, in consequence of their acquiring caloric, the heat is only entangled in the interstices, and not chemically combined. It cannot be proved, or in the present state of science rendered probable, that the union of positive and negative (vitreous and resinous) electricities will produce heat, and their separation, cold; or, in reality, that these fluids are distinct. That light is not heat we have now great reason to believe; but electricity has been supposed to be a form of light with some plausibility. Electricity is not however any form of heat, and is usually separated, instead of being absorbed, when bodies assume the form of air. All these facts strongly militate against Mr. Anstruther's system, which, however, is explained with perspicuity and supported very ingeniously, though not satisfactorily.

EDUCATION.

Elémens de la Grammaire Anglaise; ou Méthode pratique pour apprendre facilement cette Langue. Par M. Siret. Nouvelle Edition, &c.

A New Edition, by Parquet, of Siret's Elements of English Grammar. 12mo. 2s. *bound.* Vernor *and* Hood.

The improvements made in this grammar by the editor chiefly consist of well-chosen themes; and the work is thus rendered more useful to the learners of our language.

Sequel to the English Reader: or, Elegant Selections in Prose and Poetry. Designed to improve the highest Class of Learners in Reading; to establish a Taste for just and accurate Composition; and to promote the Interests of Piety and Virtue. By Lindley Murray. 12mo. 3s. 6d. *bound.* Longman *and* Rees. 1800.

The favourable reception given by the public to the English Reader (see our XXVIth Vol. N. A. p. 346) induced Mr. Murray to compile the present sequel. The pieces which he has selected are thus classed—narrative, didactic, argumentative, descriptive, and pathetic

pieces—dialogues, public speeches, *promiscuous* and *mixed* pieces. The last head is strangely tautologous: if the articles are *promiscuous*, they are certainly *mixed*.

The authors who have furnished the selections are Addison, Dr. Johnson, Hume, lord Lyttelton, Blair, Beattie, &c. The poets are Gay, Parnell, Young, Gray, Goldsmith, and others. The pieces in general are well chosen.

BIOGRAPHY.

The Life of Major J. G. Semple Lisle, containing a faithful Narrative of his alternate Vicissitudes of Splendor and Misfortune. Written by Himself. The whole interspersed with interesting Anecdotes, and authentic Accounts of important Public Transactions. 8vo. 6s. *Boards.* Stewart.

Some exploits performed by major Semple in this country, and which savoured more of enterprise than of respect for *meum* and *tuum*, have rendered the character of that gentleman sufficiently notorious to attract a degree of curiosity to these memoirs. By his own account he has passed through many extraordinary scenes, in various parts of the world, and has enjoyed the friendship and confidence of several of the most celebrated military characters of Europe. This we have no inclination to doubt—'silent leges inter arma;'—we believe that the major may have merited esteem as a valiant soldier; but, it being known that the expense of his travels was for the most part defrayed by the British government, many of our readers might be so fastidious as to suspect the accuracy of a great part of the materials of the present volume; we shall not therefore venture to make any extracts from the *traveling* part of the work, but merely observe that, in reading it, the lovers of the marvelous will probably find abundant gratification.

The major (a pitiable circumstance for a man of such active talents) is now confined in Tothill-fields Bridewell; whether, like Cæsar, he wrote this account of his own campaigns, or whether some ingenious fellow-prisoner, or man of letters, perhaps not more comfortably lodged, arranged and embellished the materials of these memoirs, we cannot tell; but it is probable that they have received the polish of a professional hand. Though we have not introduced any part of the major's story, it is our duty as critics not to neglect the *moral*, which indeed exhibits some features both novel and curious.

'I have now performed what I promised, by giving my own history, such as it has really been; and the reader has, I hope, seen, amidst all my errors, something that may be commended, much that may be pardoned, and still more that must be pitied. That I meant to vindicate every part of my conduct could not be supposed; but, alas! man is the creature of circumstances, and let him not presume to expect that no pressure is heavy enough to drive him

to a wrong action. Violent passions, the almost inseparable companions of a vigorous constitution, call upon youth, with an importunity nearly unceasing; experience, the surest guide, is inevitably wanting; example invites, splendor displays its allurements, fashion leads the way, and ruin too often follows. Gay, honest, unsuspecting, and generous, the young man rushes on to pleasure, and, considering interest as trash, is apt to weigh the property of others as lightly as he does his own; amusements incur expence, and expence degenerates into prodigality. To supply those pleasures now become almost necessary to his existence; he contracts debts, which he cannot pay; he shifts from his creditors; his gay companions forsake him, as an incumbrance on their joyous moments; poverty stares him in the face, and actions, at which his soul recoils, become the only possible means of subsisting. If an accidental supply falls in his way, his relish for pleasure returns; he embraces it with an appetite sharpened by abstinence; he is again involved, and disgrace succeeds to ruin.

'Once disgraced, those prudent friends, whom the law alone restrains from open plunder, abandon him; they do worse, they shut the door of society against him by their calumnies; his faults are the theme of their conversation, and they shelter their own want of honesty behind his loss of fame; they hunt him down with unceasing clamour, till it needs more than common discernment and common firmness even to dare to befriend him: his timid well-wishers will not venture to give their countenance to him; and he is left to perish!

'Did it always happen that men of warm passions, hurried away by pleasures, were villains; or did it always happen that the cold, the solemn, the phlegmatic, were honest; some excuse might be found for such persecutions. But as it happens on the contrary, that the man who is without vices is also, for the most part, without virtues, and that prudence is very often nothing better than low selfishness in disguise, little can be said for such gratuitous severity; besides, if one good action is not sufficient to constitute the man of worth, why should one bad one be allowed to constitute the villain? A serious turn, the effect of experience, may reclaim the libertine, his unruly passions may subside, and he may, if the gate of society be left open to him, some time or other, re-enter it; but, if hunted into villainy, by the clamours of hypocrisy, the die is cast, and his perdition is inevitable.

'Too often do talents and accomplishments prove the ruin of the owner; he is beset by the envy of little minds, they endeavour to reduce him to their own level, by drawing him into debauches; they flatter him while in his presence, but no sooner is he gone than they revile him: if his intimacy with them can give probability to their tales, they fabricate calumnies which pass for truths; if he makes one false step, he falls unpitied, and they are the first to trample upon him.

'It is a trite observation, that men of talent are generally poor, and seldom rise to any high preferment; it is true; for if they depend solely on their merit, no sooner does that begin to display itself, than it is invested on all sides by an army of blockheads, who, having no merit of their own, cannot bear it in others. But where a youth sets out with high spirits, conspicuous talents, indulgent friends, and a small fortune, his ruin is next to inevitable, life is to him a perpetual ambuscade, with a thousand masked batteries ready to play upon him at every turn; his vanity is flattered, his senses amused, his companions press him to become the partaker of their pleasures, his enemies endeavour to entice him to destruction; he yields himself up to gaiety and expence, till at length he falls, and dunces rise on his ruin.' P. 366.

A part of these effusions of sentiment would doubtless be felt and admired by the philosophers of Botany Bay; but the parent country has perhaps too many prejudices to adopt the free morals of its new colony.

An Inquiry into the Life, Writings, and Character, of the Rev. Dr. William Guild, one of the Chaplains in Ordinary to His Majesty King Charles I. and Founder of the Trinity Hospital, Aberdeen. With some Strictures upon Spalding's Account of him, and of the Times in which he lived. By James Shirrefs, D.D. &c. 8vo. 2s. 6d. Boards. Rivingtons. 1799.

Dr. Guild, a respectable divine of the seventeenth century, principal of king's college, Aberdeen, made at his death some valuable bequests to that city, entitling him to that degree of notice in his native place which his talents and writings are not likely to procure him in the pages of general biography. The quaint titles of his works in divinity discover the taste of the times, and the writer's general pursuits; and the works themselves have fallen into oblivion. In the troubles which agitated the reign of Charles I. he had his share of affliction, and was deprived of his collegiate office: but the incidents in his life scarcely furnish matter for so short a publication as the work before us; and when we observe with pleasure that his memory is rescued from the insinuations of Spalding, we must add that few of our readers will find any interest in the contest. The publisher of these memoirs, however, is to be commended for the task he has undertaken; and the natives of Aberdeen will feel an interest in the work.

The Life of George Washington, late President and Commander in Chief of the Armies of the United States of America; interspersed with Biographical Anecdotes of the most eminent Men who effected the American Revolution. Dedicated (by Permission) to the Right Hon. the Lord Mayor. By John Corry. 8vo. 3s. 6d. Kearsley. 1800.

To describe the character and write the history of George

Waſhington, require talents ſcarcely inferior to thoſe of the great man who planned and executed the American revolution, and who, regardleſs of the common objects of ambition, was happy in purſuing the general good, and thought the exerciſe of power deſirable only as it contributed to the welfare of others. It requires time to collect materials relative to this important character. The events of the American war have been detailed to ſatiety; they are open to every one's reſearches: but the fame of the general is loſt in the virtues of the citizen, and all are anxious to learn in what manner the hero of this work diſtinguiſhed himſelf as a legiſlator, as preſident of a great ſtate, and in the boſom of domeſtic retirement. This account fails in giving us ſatisfaction reſpecting the early years of Waſhington. Three quarters of the work are employed in the detail of the war. From his reſignation of the command of the army in the year 1783, a few pages inform us that he reſumed his agricultural purſuits at Mount Vernon in Virginia, that he was choſen preſident of the ſtates in 1789, that he reſigned that office in 1796, and died in 1799. Thus the ten moſt important and moſt glorious parts of his mortal career are paſſed over with little or no notice of the prudence of his conduct in ſo troubleſome a period, and of the wiſdom of his general adminiſtration. We would recommend a ſlight change in the title-page of the work: let it be 'A ſhort account of the American revolution, interſperſed with biographical anecdotes of general Waſhington, and others who took part in that event;' and the purchaſers of the volume will not then be liable to be deceived in their expectations.

POETRY.

Poetical Attempts. By Mrs. Hale. 8vo. No Publiſher's Name. 1800.

The authoreſs of this volume informs us, in a dedication addreſſed to 'all who know her, and all who know her not,' that the ardent wiſh of extricating an amiable and worthy family from their preſent difficulties prompted its publication. As friends to humanity, we moſt ſincerely wiſh her ſucceſs; and we are happy to find, by the inſpection of her liſt of ſubſcribers, that ſhe has ſecured the patronage of a conſiderable number of illuſtrious characters.

Reviewers may frequently be conſidered as exerciſing the functions of *accuſateurs publiques*. Mrs. Hale ſeems to view them in that light; and, in an addreſs to the critics, ſhe thus arranges her defence:

'Theſe trifles (ſince I'm at confeſſion,
And muſt reveal each paſt tranſgreſſion)—
Theſe are, to own the honeſt truth,
The tell-tale bantlings of my youth;
Offspring of many a thoughtleſs year,
When, free from ſorrow, free from care,

I wander'd life's delights among,
Happy as gay, and gay as young;
When gathering many a gaudy flower,
From Fancy's variegated bower,
I wove these wreaths, which, fresh and fair,
On youth's luxuriant auburn hair,
Suit not, your suppliant confesses,
Sober age's silver tresses.
Yet if these pleas will not excuse me,
And you determine to abuse me;
If still inexorably harden'd,
You don't at once pronounce me pardon'd;
For last, and best, defence of all,
My *motives* to my aid I call!—
Here I'm indeed a host, not fearing
Reviewer's frown, or critic's sneering;
Here I defy the proudest he
To laugh at my simplicity:
For sure, to aid embarrass'd worth,
From sorrow's shade draw goodness forth,
To ease fond parents' anxious fears,
To guard their children's tender years,
Virtue herself will plead my cause—
Will crown me with good men's applause:
Each muse propitious grant her love,
Apollo smile, and you approve.' P. 155.

We should lead the public into error, were we to declare or to imply that all the attempts are answerable to this sample. Many of Mrs. Hale's pieces are indeed trifles which may have passed current with the civility of politeness or the fondness of affection, but which are by no means sufficiently interesting or sufficiently polished to meet the public eye.

Sir Hubert, an Heroic Ballad. By John Westbrooke Chandler. 8vo. *7s. 6d. Boards.* Kerbys. 1800.

'To judge,' says lord Shaftesbury, 'of the circumstances of a modern author by the pattern of his prefaces, dedications, and introductions, one would think that, at the moment when a piece of his was in hand, some conjuration was forming against him, some diabolical powers drawing together to blast his work and cross his generous design. He therefore rouses his indignation, hardens his forehead, and with many furious defiances and avant-Satans, enters on his business.'

Of this observation we were strongly reminded by the conclusion of Mr. Chandler's preface. 'To the illiberal who assume the name of critic I have nothing to advance. There are some persons in the world whose approbation would be reproof; there are others also whose censure would be praise.'

If our approbation would be reproof to Mr. Chandler, of ſuch reproof he has no occaſion to entertain any dread. We have peruſed his ballad, and have thought it tedious and unintereſting. If the *partial friends* at whoſe ſuggeſtion he ſubmitted it to the public inſpection had adviſed him to 'keep his piece nine years,' to prune its ſuperfluities, and to correct its inaccuracies, they would have acted a friendly part: for his poem poſſeſſes *ſtamina*; its plot is formed with as much ſkill as the ſimplicity of its materials would allow; and, amid many puerilities which maturer judgement would have retrenched, ſome original beauties ſhine. The following paſſage diſplays the *membra poetæ*.

'Whether it were deſpair indeed,
Or, that my dizzy brain
Yet trembled from the fatal blow
Which fell'd me to the plain,

'I know not; but my ſoul ſure felt
Each change of maniac woe;
Yet not at times devoid of bliſs
Would my wild fancies flow,

'Since thou wert preſent to my thoughts:
Oft, by the wizard's pow'r,
Thou wav'dſt within a graceful pine,
Or breath'dſt from ſome fair flow'r:

'Oft wou'd I guard the roſe that ſhook
Its perfumes to the wind,
And ſwear my ſweeter Ethelind
Its ſilken buds enſhrin'd;

'Then I wou'd drink its ſilv'ry dews,
(Thy tears) and to my breaſt
With tender care, thy fragrant mouth,
Thy leafy lips were preſt.

'Sometimes the friar wou'd find me fixt,
As one from marble hewn;
Pale, cold, regardleſs, woe-begone,
And poring on the moon—

'(Perhaps, I thought, my love e'en now
Leans penſive from her tow'r,
Complaining to that virgin orb
Of fortune's fickle pow'r—)

'Then ſudden ruſhing from his view,
I ſeek the deepeſt ſhade,
And melancholy, cypreſs boughs
About my temples braid;

'And now I hear thy paſſing-bell!
 With tender grief o'ercome
I gather all the ſweeteſt flow'rs,
 To ſcatter round thy tomb.'— P. 141.

It is hardly credible that the author of the foregoing pathetic deſcription could condeſcend to the following conceit.

'Half o'er her ivory ſhoulders hung,
 A veil of whiteſt hue,
And half reveal'd (unconſcious maid!)
 Her boſom to the view.

'Between there lay a ſparkling croſs
 Beaming with ruby fires—
Burning in ſnow—it heav'd—it breath'd—
 And bluſh'd with ſoft deſires!' P. 18.

In p. 74 we find the heroine in the following *intereſting* ſituation.

'Now Eth'lind thro' thy trembling nerves
 Tumultuous horrors roll!
On either ſide now this, now that
 Preſents the ſteel or bowl—

'The friar reſolves to give the blow,
 He graſps thy trembling arm,
He ſtrikes—he ſtrikes—the ſhining ſteel
 In thy life's blood is warm.'

Now, gentle reader! does not *thy* blood curdle with horror at the recital of this barbarous deed? Come! cheer up thy ſpirits—not to keep thee in the agony of ſuſpenſe, we inform thee, that the ſteel of the friar is a lancet, the bowl preſented by the old hag is, in plain Engliſh, a baſin, and the murder evaporates in the operation of phlebotomy, which is performed on the fainting Ethelind.

In the laſt line of the following ſtanza we have a notable inſtance of the art of ſinking in poetry.

'Say, gentle friar—for pity ſay,
 What means this ſilent gloom?
What walls are theſe? Does Raymond live?
 The friar left the room.'— P. 78.

The enſuing lines contain a plain truth very plainly told.

'Reſiſtleſs love, whom all obey,
 Yields to no temp'rate guſt;
Love holds the rudder of the ſoul,
 And where we muſt, we muſt!' P. 83.

The melody of the ſubſequent ſtanzas is in ſome degree original.

‘ Thus as ſhe ſpoke, in either eye
Grief hung a trembling tear;
With ſcorn repreſt—the conſcious ſorrow
Stood ſuſpended there.’—— P. 85.

‘ But, if thou wilt not——Tyrant ceaſe!
(She ſaid abrupt) ſooner
The ſpiny thorn, or thiſtle ſhall
The purple cluſter bear.’ P. 86.

These and various other paſſages in this heroic ballad evince the truth of the author's aſſertion that ‘ The muſes ſometimes nod.’

Britannia's Tears, a Viſion. By A. Peterkin. 4to. 1s. Hurſt. 1800.

Amid, what he claſſically denominates, the *tenebrious gloom* of a night of *bluſtrous November*, Mr. Peterkin falls aſleep; and, lo! he beholds in viſion his native land enjoying all the bleſſings of internal peace and rural felicity. He breathes a prayer for the long continuance of theſe bleſſings. Scarcely has he ſpoken, when a band of domeſtic enemies riſe and ſpread devaſtation, rape, and murder, far and wide.

‘ As when a cataract of liquid fire,
Down dark Veſuvius' ſide terrific rolls,
What time, preceded by eruption dire,
Conflicting elements evulſe his *bowels;*
The glowing torrent, having reached the plain,
Expands, and whereſoe'er it's boiling wave
Approaches, death and devaſtation reigns,
Inhuming Nature in a pitchy grave.

‘ So, for a while, where theſe predators ſpread,
Horror and deſolation mark'd their courſe;
Till from their ſtupor rous'd, contemning dread,
The ſwains reſolv'd to combat force with force.’ P. 5.

The loyal ſwains gain the victory over the rebels, ſome of whom flee to France, others are hanged, ſome ſneak home, and others are ſent to Botany Bay. The ſcene now changes to the ſea-ſhore, where Britannia is ſitting on a rock, embathed in tears, ſighing for the return of peace, and indignant at the deſertion of her allies. She declares that

‘ —— private int'reſt and inglorious fear,
Perfidious undermin'd, what might have brav'd,
(Had all the coaleſc'd powers been ſincere)
The en'mies vengeance, and their country ſav'd.’ P. 10.

Britannia now complains of the ſtupidity of the Dutch, that *illepid* race who fought againſt their deliverers, and weeps over the

woes of a *susceptive maid*, who is waiting for the return of her lover whose corse *lies supine* on Alkmaar's strand. She then digresses to the duke of York, whom she praises for preferring convention to battle, and for preserving his thousands 'to fight another day.'

'Let temerarious chiefs impetuous fight,
Till with life's essence they have drench'd their plains;
Heroic valor never shines more bright,
Than when from wanton carnage it refrains.' P. 11.

Having vented her emotions, Britannia is much relieved.

'The goddess ceas'd and wip'd her humid eyes,
Then smiling graciously upon her train,
Said, this I ow'd the shades who climb yon skies;
The debt discharg'd, I am myself again.
Since manufactures thrive and trade excels,
Since commerce to my shores directs her fleets;
Since vigilance, ev'n embryo treason-quells,
And wealth and grandeur grace my splendid streets.' P. 12.

Loyalty, like charity, covers a multitude of sins. May this comfortable cloak conceal the poetical peccancy of Mr. Peterkin, and may his poem have a wide circulation among the staunch supporters of all the measures of his majesty's present ministers. As to the opposition wits, we are afraid that their prejudices may render them fastidious, and that they may laugh at *permissive streams*—sounds 'with which *Æólus* melts the raptured soul'—and sovereigns who 'acted in *concért*', and then put on a temporising smile in order 'to evade severe *impósts*.'

DRAMA.

The Peevish Man: a Drama, in Four Acts. By Augustus Kotzebue. Being his last Production. Translated by C. Ludger, Esq. 8vo. 2s. Hookham.

Ecce iterum Crispinus! and our old friends Mr. Shandy and Uncle Toby, metamorphosed into Germans! One of our writers once dramatised Werter; and the Germans have now retaliated. This is a kind of literary high treason and sacrilege deserving severe censure. Heavy was the punishment, and just, of the feeble who attempted to shoot in the bow of Ulysses.

There is, however, something to commend in this play. Its tendency is unexceptionable (an uncommon merit in Kotzebue); and the Peevish Man, where we lose sight of Mr. Shandy, is well drawn. In the following scene his sister, irritated by the insults of fretfulness, is on the point of leaving him.

'*Herman.* (*With an oppressed heart.*) Sister, I am told you will leave me?

'*Ulrica.* (*The same.*) Yes, brother!

'*Her.* I hope you do not mean to imitate ambaſſadors of foreign powers, who, when their courts have decreed iron war, ſet off without ſaying farewell?

'*Ul.* God forbid! Many a happy hour have I ſpent here. Ah! fondly did I hope to ſigh away my lateſt breath under the ſame roof that ſhelters my dear Herman—and let it glide away as ſerene and calm as its eldeſt ſiſters did; (*ſighs;*) but it muſt not be!

'*Her.* (*Gently.*) Why not?

'*Ul.* Whatever it be that fills my heart with reſpect for you, brother!—it is not rancour, it is grief—that which has paſt between us will never cancel the ſenſe of my obligations.

'*Her.* Good God! what has happened then?

'*Ul.* You have uſed me very ill.

'*Her.* But, ſiſter, you know my way—

'*Ul.* I know you mean no harm; and I have always borne every thing with patience and affection.

'*Her.* Only to-day—

'*Ul.* What between two perſons will prick ſlight as a needle, will make deep wounds in the preſence of a third. To-day you have, in the preſence of a ſtranger, grievouſly offended your ſiſter—your poor ſiſter, your ſiſter that lives on your bounty.

'*Her.* Bounty—ſilly expreſſion.

'*Ul.* Yes; I am not aſhamed to own it. You have, ſince the death of our mother, acted the part of a father to me.

'*Her.* And ſometimes grumbled like a father too.

'*Ul.* Without you I had been compelled to ſeek in a convent, among ſtrangers, for what, here, fraternal love has laviſhed upon me. But, Herman! a benefactor voluntarily loads heavy obligations upon himſelf! *What* he gives is the leaſt, but the *manner* in which he beſtows, conſtitutes the value of his boon.

'*Her.* Preach away, good old ſoul, preach away!

'*Ul.* I have always preſerved ſilence; ſuffer me now to ſpeak my mind: I think, king Saul muſt have been ſomewhat like you, when David played the harp to him. But, unfortunately for us, we here have neither Davids nor harps to ſooth your mind.

'*Her.* She is right.

'*Ul.* I leave you. Don't treat with contempt the admonitions of a ſiſter. When you have faithful ſervants, uſe them well. Do not grumble about every trifle. Do not expect your ſervants to be perfect, while there is no maſter that can boaſt of perfection. Look only to cleanlineſs and good-will; be content with that.—I entreat you, brother Herman, remember my words, that—it breaks my heart to tell you ſo—that you may not be deſerted at the hour of death!

'*Her.* And will my only ſiſter leave me at that hour!

'*Ul.* No, brother; I'll come at your call.

'*Her.* But now?

'*Ul.* I now go—becauſe I am forced.

'*Her.* Who forces you?

'*Ul.* Oh! my heart, that is rent.

'*Her.* And will you go, if even, in the presence of the whole house, I confess that I have behaved like a fool to you?

'*Ul.* I still will go.

'*Her.* And that I will never act so again?

'*Ul.* I still must go. Forgive me, brother; you have so often repeated that promise to me, it seems, alas! as if you *could* not perform it.

'*Her.* I have indeed no other voucher than my heart.

'*Ul.* Your voucher is an honest one, but groans under the weight of your humour.

'*Her.* But, good heavens! where will you go to?

'*Ul.* To town, to my foster-daughter. She and her future husband have vowed, with tears in their eyes, that they would honour me as their mother. See now, what an advantage there is in securing good souls by the ties of love, which are much stronger than those of consanguinity.

'*Her.* (*With grief.*) You will leave your brother—

'*Ul.* I'll go to my daughter.

'*Her.* To a stranger, whom you don't know—

'*Ul.* I have educated a worthy wife for him; he will prove grateful.

'*Her.* And if you should be deceived?

'*Ul.* Then I'll go to my convent, and there await my end.' P. 93.

True Patriotism; or, Poverty ennobled by Virtue, a Drama; performed, for the first Time, December 21st, 1798, at the Theatre in Louth, with universal Applause. 8vo. 2s. Crosby *and* Letterman. 1799.

A drama upon the late Irish rebellion by an Irish loyalist.—The author's knowledge of human nature appears in his delineation of his United Irishmen, who describe themselves as acting not upon mistaken principles, but upon such as are avowedly bad. His poetry may plead its own cause.

'*Lucy.* O most unhappy!
Thou prowling democrat! (no name the worse)
What dost thou here? But, O my soul, too well
Thou know'st his dire resolve. Yet, Oh! let mercy,
(*Supplicating him*)
If e'er thou hop'st to meet with mercy, make
Thy deadly purpose void. Stain not thy mind
With deeds too black to ever be eras'd.
Endless perdition waits the murky soul
That blasts the bud of innocence by wiles;
Then, think what fi'ry gulphs ope their red mouths

To swallow up the thrice-black ravisher.
Let this, unfeeling! warn thee to forbear,
If pity cannot move.
' *Libel.* You talk this well:
Mere empty sound of words; for know I not,
Jove smiles at lovers' tricks; and fraud or force
Alike will be forgiv'n?
' *Lucy.* O dark impiety!
Well may th'Almighty's anger shake that country,
Degen'rating to heathenism, where live
The men who harbour principles like these.
' *Libel.* Rate on, my sweet-one. I'm come to aid you
In railing at bad men, my dearest Lucy:
Also, to claim you for my proper self,
In lieu of Lionel; who, you must know,
With his most loyal father, (right reward)
Lies bury'd in the common dust at Clonmere.
' *Lucy.* Then all my fears are true. What! Can it be
That thou the village' greatest pride art gone;
Nor left thy like behind?' P. 50.

NOVELS, &c.

The Picture of the Age; a Novel. 2 *Vols.* 12*mo.* 7*s.* *Boards.* Symonds. 1800.

In this *picture* the figures are not numerous or striking. Fanny marries one man, and loves another: her husband discovers her love for Henry, promotes a criminal intercourse between her and her favourite, and obtains a divorce; after which the lady gives her hand to Henry. Her friend Eliza espouses an old man, and, after his death, becomes the wife of his nephew. This novel was written with a view of recommending a facility of complete divorce, and a disregard even to very near affinity, in forming matrimonial connexions.

Though this work is brought forward as an original, we have no doubt, from a great number of passages, that it is a translation from the French. We shall only add, that we are disgusted with the immoral tendency of the piece, and do not approve the *composition.*

Frederic Latimer; or, the History of a Young Man of Fashion. 3 *Vols.* *small* 8*vo.* 10*s.* 6*d.* *Boards.* Cadell *and* Davies.

The hero of this novel is a lively spirited young man, with a good heart and an amiable disposition. In the earlier part of his career, he is credulous, weak, and unsuspicious; but he acquires caution and wisdom in the sequel. The follies and absurdities of fashion are well satirised by the author; and the work, which is said to be his first attempt, deserves sufficient encouragement from the public to induce him to renew his exertions.

Constantia Neville; or, the West Indian. A Novel. By Helena Wells. 3 Vols. 12mo. 15s. sewed. Cadell *and* Davies. 1800.

For the purpose of pointing out ' the ways of Providence to man,' and of propagating virtue by example, the authoress of the Step-Mother composed this work. The incidents are sufficiently numerous; probability is rarely violated; the plot is not ill conducted; and the morality is unexceptionable. Constantia is a well-drawn character, full of dignity, fortitude, prudence, and virtue; but vanity is sometimes too apparent in her ideas of her own merit. The style is easy and perspicuous, but frequently inaccurate, though the errors are not so disgraceful as those which deform the greater part of our modern novels. Upon the whole, the work may be read both with pleasure and profit.

Exhibitions of the Heart; a Novel. Dedicated (by Permission) to the Queen. By Miss Hutchinson. 4 Vols. 12mo. 16s. sewed. Kearsley.

The title of this novel sufficiently indicates its purpose; and, from an attention to the latter, we ought to determine with regard to the invention and judgement displayed in the execution of the design. The history is properly not that of any particular person, but contains, episodically, the assemblage of a considerable number. The characters, both male and female, are delineated in lively colours, and supported with consistency; while each is introduced in an easy and natural manner, they have likewise among them, in general, such a degree of connection as blends, at the same time that it discriminates, their different situations in the progress of the narrative. Many of the incidents, and much of the sentiments, present the reader with a forcible appeal to the heart, which is often increased by auxiliary resources drawn from religion and morality. In a few parts we discover a little affectation in point of style, but not such as to detract from the general merit of the composition. A variety of scenes are well described, and abrupt occurrences are judiciously managed, for promoting the completion of the different objects in view. On the whole, these volumes deserve to be regarded as interesting; and Miss Hutchinson seems, on some occasions, to have intermixed her narrative with adventitious incidents from real life; at least she has given them in different places an air of reality.

Augusta; a Novel, from the French, by a Lady. 3 Vols. 12mo. 10s. 6d. Boards. Earle *and* Hemet. 1799.

Some of the letters which compose this novel are amusing; others are sentimentally dull. The original we before noticed (Vol. XXIII. New Arr. p. 547): of the translation we can only say, that it claims little praise.

MISCELLANEOUS LIST.

The Royal Tribes of Wales. By Philip Yorke, Eſq. of Erthig. 4*to.* 1*l.* 1*s.* *Boards.* White. 1799.

The chief merit of this work conſiſts in portraits of eminent perſons of Wales, well engraven by Mr. Bond.

The anecdotes interſperſed are rather amuſing than important; and the greater part of the letter-preſs is occupied with diſcuſſions concerning Welch genealogies, only intereſting to the families connected with them. We are ſurpriſed at the remaining fondneſs of the Welch, in general a ſenſible and ſpirited people, for ſuch reliques of ancient barbariſm—deſcents which, if proved, could reflect no genuine glory; but which, uncertain as they are, only betray the credulity of ignorance. Mr. Yorke manifeſts little antiquarian knowledge; and his references to ancient authors are generally vague and erroneous.

The following note will give the reader an idea of the Royal Tribes of Wales.

'The five regal tribes, and the reſpective repreſentative of each, were conſidered as of regal blood. The fifteen common tribes, all of North Wales, and the reſpective repreſentative of each, formed the nobility; were lords of diſtinct diſtricts, and bore ſome hereditary office in the palace. Gruffudd ab Cynan, prince of North Wales, Rhys ab Tewdwr, of South Wales, and Bleddyn ab Cynſyn, of Powys, regulated both theſe claſſes, but they did not create them; as many of the perſons, placed at their head, lived before their times, and ſome after. Their precedence, as it ſtands, is very uncertain, and not governed by the dates; the laſt of them were created by Dafydd ab Owain Gwynedd, who began his reign in 1169. We are left ignorant of the form by which they were called to this rank. Mr. Vaughan of Hengwrt informs us "that Gruffudd ab Cynan, Rhys ab Tewdwr, and Bleddyn ab Cynſyn, made diligent ſearch after the arms, enſigns, and pedigrees of their anceſtors, the nobility and kings of the Britons. What they diſcovered by their pains in any papers and records was afterwards by the bards digeſted and put into books, and they ordained five royal tribes, there being only three before, from whom their poſterity to this day, can derive themſelves, and alſo fifteen ſpecial tribes, of whom the gentry of North Wales are for the moſt part deſcended." P. 1.

One of the moſt intereſting portraits is that of Humphrey Llwyd, the celebrated antiquary; and we ſhall extract Mr. Yorke's account of that learned man as a ſpecimen.

'The Lloyds of Aſton deſcended from Einion. The heireſs of the houſe, Elizabeth, daughter of Thomas Lloyd, married Foulke Lloyd of Foxhall, or the hall of Foulke, and was great grandmother to the Rev. John Robert Lloyd, rector of Whittington and Syllatyn,

both in his advowſon, the preſent poſſeſſor of Aſton. The name of the Foxhall family was Roſindale, when they came firſt from the north. To a younger branch, ſettled at Denbigh, we owe our learned countryman, Humphrey Llwyd. He was of Brazen-noſe, Oxford, ſtudied phyſic, and lived as family phyſician in the houſe of the laſt earl of Arundel of the name of Fitzalan, the chancellor of that univerſity. He ſat in parliament for his native town of Denbigh, and died there in the forty-firſt year of his age, and was buried in the pariſh church with a coarſe monument, a dry epitaph, and a pſalm tune under it. He made the map of England for his friend, Ortelius, to whom he dedicates his Commentariolum Britanniæ, and his Epiſtle De Monâ Druidum Inſulâ, antiquitati ſuæ reſtitutâ. He left a Chronicon Walliæ a rege Cadwaladero, and the Hiſtory of Cambria, now called Wales, in MS. He printed a Latin paper De Armamentario Romano, and turned ſome medical treatiſes from Latin into Engliſh. He collected many curious books for lord Lumley, (whoſe ſiſter he married) which form at this time a valuable part of the library in the Britiſh muſeum. One of his ſons was ſettled at Cheam in Surry, whoſe great grandſon, Robert Lloyd, was rector of St. Paul's, Covent Garden, and contended, but without effect, for the barony of Lumley.' P. 117.

Lord Lumley's books, which ſometimes occur in ſets marked H. L. with a coronet above, did not all paſs into the Britiſh muſeum. They were, it is believed, a divided inheritance, of which a part fell into different hands.

An Arrangement of Provincial Coins, Tokens, and Medalets, iſſued in Great Britain, Ireland, and the Colonies, within the laſt Twenty Years. By James Conder. 8vo. 7s. 6d. Boards. Cadell *and* Davies. 1799.

This little work is well arranged, neatly printed, and embelliſhed with copper-plates.

'The arrangement of the counties in Great Britain, with the towns in each ſeparately, has been adopted, as combining uſefulneſs with clearneſs of method. Ireland, and the different colonies, are ſeparated from Great Britain; and in another chapter are claſſed alphabetically, ſuch medalets, &c. as have no particular reference nor alluſion to any ſpecific county, city, or town, by which poſterity can be ſuppoſed to trace where the proprietor reſided; and herein, under the general term Britiſh, are compriſed the different pattern pieces for national coinage, as well as others that have a particular reference to Great Britain. In ſome other medalets contained in this chapter, the moſt important circumſtance, as conſtituting its deſignation for arrangement is adopted, ſuch as portraits of the pieces of Howard, Newton, and others: the idea of induſtry is chiefly conveyed by the halfpenny bearing a bee-hive, "Induſtry has its ſure

reward," &c. A vast number of varieties having been created by several dealers conjointly, from dies fabricated on purpose to impose upon collectors, one of each of the original pieces is retained in the general arrangement, and the remaining intermixture are placed in alphabetical order at the end of the work, merely to certify their existence.

'I have in my possession fifty-five different American pieces, some minted there, and others in Great Britain; several of which, circulated in this country, were improperly included in the lists that have been published, as the medalet of "Washington, United States, New York Tokens;" but such are wholly omitted in this arrangement. They may be collected as American pieces; but can never be regarded as British.

'Having received a few coins whilst the work was printing, too late for insertion in their proper places, a small appendix has been found necessary, in which particular reference is made to where they should be placed, that the arrangement in the cabinet may not be injured by it; it is likewise necessary to mention, that the difference of the metals is specified only where it is not copper.

'With the assistance I have received, and the care bestowed to render it complete, I hope this work will be found the most perfect of its kind which has hitherto appeared.' P. 2.

The preface, by the late ingenious James Wright, esq. of Dundee, evinces the zeal of that gentleman for medallic science.

Narrative of the Shipwreck of the Juno, on the Coast of Aracan, and of the singular Preservation of Fourteen of her Company on the Wreck, without Food, during a Period of Twenty-three Days. In a Letter to his Father, the Rev. Thomas Mackay, Minister of Lairg, Sutherlandshire—By William Mackay, late second Officer of the Ship. 8vo. 2s. 6d. Debrett.

Narratives of this kind powerfully affect the imagination, and interest the feelings perhaps beyond all other pictured scenes. The present narrative is given with uncommon simplicity and honesty, without any affectation of the hero or the braggart. It is addressed to a *father* with whose sensibility every reader who has a heart will feel it in unison. The following passage is particularly affecting.

'Of those who were not immediately near me I knew little, unless by their cries. Some struggled hard, and died in great agony; but it was not always those whose strength was most impaired that died the easiest, though in some cases it might have been so. I particularly remember the following instances: Mr. Wade's servant, a stout and healthy boy, died early, and almost without a groan; while another of the same age, but of a less promising appearance, held out much longer. The fate of these unfortunate boys differed also in another respect, highly deserving of notice. Their fathers were both in the fore-top when the lads were taken ill. The father of Mr.

Wade's, hearing of his son's illness, answered with indifference, "that he could do nothing for him," and left him to his fate. The other, when the accounts reached him, hurried down, and watching for a favourable moment, crawled on all-fours along the weather gunwale to his son, who was in the mizen rigging. By that time, only three or four planks of the quarter-deck remained, just over the weather-quarter gallery; and to this spot the unhappy man led his son, making him fast to the rail to prevent his being washed away. Whenever the boy was seized with a fit of retching, the father lifted him up, and wiped away the foam from his lips: and if a shower came, he made him open his mouth to receive the drops, or gently squeezed them into it from a rag. In this affecting situation, both remained four or five days, till the boy expired. The unfortunate parent, as if unwilling to believe the fact, then raised the body, gazed wistfully at it, and when he could no longer entertain any doubt, watched it in silence till it was carried off by the sea; then wrapping himself in a piece of canvass, sunk down, and rose no more, though he must have lived two days longer, as we judged from the quivering of his limbs when a wave broke over him.' P. 22.

The Nature and Danger of Infidel Philosophy, exhibited in two Discourses, addressed to the Candidates for the Baccalaureate, in Yale College, September 9th, 1797. By the Rev. Timothy Dwight, D. D. President of Yale College, with a Recommendatory Address, by the Rev. Dr. Ryland, and the Rev. Mr. Fuller. 8vo. - 1s. 6d. Hurst.

This is an academical oration; but it differs much from academical orations in Europe. Here are no ornaments of style or language: a dry enumeration of the tenets of many ancient and modern philosophers, and a contrast drawn between their doctrines and the purer precepts of the Gospel, form the substance of the discourses, which probably seemed long to the 'young gentlemen' to whom they were addressed, and are made longer for the benefit of the reader. A curious argument struck us in our progress through this pamphlet, and it was almost the only thing that could excite attention.

'In our own land, and in every neighbourhood, may be daily found those who adorn the human name with all the virtues, which infidels have at any time professed, and with many of a superior kind, to which they have never formed a pretension. So evident is the want of morals on the part of infidels, in this country, generally, that to say—"A man is an infidel"—is understood, of course, as a declaration, that he is a plainly immoral man. On the contrary, to say—"A man is a true or real Christian"—is universally understood as a declaration, that he is a man distinguishedly virtuous. This phraseology has its origin in the experience, and common

sense, of mankind, and may be fairly assumed as complete evidence of the sentiment alleged.' P. 77.

In Turkey, the term infidel is very common; it is the epithet by which Christians are distinguished; and to say that a man is a good Mussulman is universally understood as a 'declaration that he is a man *distinguishedly* virtuous.' According, therefore, to the mode of argument used by this academic, Christians are universally men of bad, and Mohammedans men of good morals. But rhetoric and logic cannot be expected to have arrived at their *acmè* either with the young gentlemen or their teachers on the other side of the Atlantic.

Report from the Clergy of a District in the Diocese of Lincoln, convened for the Purpose of considering the State of Religion in the several Parishes in the said District, as well as the best Mode of promoting the Belief and Practice of it; and of guarding, as much as possible, against the Dangers arising to the Church and Government of this Kingdom, from the alarming Increase of Profaneness and Irreligion on the one Hand, and from the False Doctrines and Evil Designs of Fanatic and Seditious Teachers on the other. 8vo. 1s. Rivingtons. 1800.

This report comes out under very suspicious circumstances. It is not said by whom the meeting was convoked, nor who were the persons authorised to hold such a meeting. It is stated that the bishop of Lincoln gave his permission for holding this assembly, which is declared to have been a general meeting of the clergy of a district in his very extensive diocese; and yet, if such a meeting was ever holden, the name of the district is not communicated to the public. We can scarcely believe that such a meeting ever took place, because it would be not only unprecedented, but also useless if not dangerous for clergymen to meet without the usual forms and authority of the church. There are episcopal visitations, archdeacons' visitations, &c. &c. in which questions of doctrine and discipline may, under the cognisance of the proper officers, be discussed; and, on a proper application to the bishop, there cannot be a doubt that a peculiar meeting might receive his sanction and authority: yet he would scarcely allow the proceedings of such an assembly to go forth to the world without his sanction, much less without any apparent sanction whatever. In these times of innovation, the heads of the church will be careful that examples of irregularity do not proceed from their own body.

The report is drawn, it is said, from the information received from upwards of one hundred parishes, in which the church is not attended by one person in three, nor the sacrament received by one in six of the adults. There are seven meetings of dissenters commonly so called, and thirty-eight of the methodists; and of these thirty-eight meetings only 'twenty-two are appropriated wholly to

religious purpoſes.' It is againſt the efforts of the latter claſs that the report is framed; and among the remedies propoſed, of which many are good in their kind, that which is moſt prominent is the neceſſity of applying to the legiſlature for new powers, and for

'Such explanations and amendments of the toleration act, as, without infringing in any degree upon any of the privileges, immunities, and exemptions, which the diſſenters from the church of England now enjoy, ſhall ſecure the church from fraudulent intruſion or encroachment; either by defining the number of adult inhabitants that ſhall be neceſſary to eſtabliſh a meeting-houſe, or by ſuch other means as the legiſlature in its wiſdom ſhall judge expedient.' P. 20.

The powers of the church are at preſent ſufficiently ample; and the ſpiritual exertions of the clergy will prevent any inroads on the eſtabliſhment from ignorant and illiterate preachers: at the ſame time it will be difficult for the legiſlature to interfere in the diſcipline of a meeting-houſe without infringing that toleration which it has ever been the pride and honour of the Hanoverian family to maintain.

Some Information reſpecting the Uſe of Indian Corn: collected from the Papers of Mr. Winthorp and Mr. Howard; with Obſervations from Mr. Parmentier, on the Uſe of Potatoes in Bread; and Mr. Doſſie's Directions for the making of Bread in private Families. 8vo. 1s. Baldwin.

This publication may be highly uſeful. It ſhows that Indian corn, potatoes, carrots, &c. afford, in ſeaſons of dearth, ſubſtitutes almoſt equally valuable. Various œconomical remarks of importance are added, which we cannot conveniently abridge. The whole muſt be peruſed together; and it forms an excellent compendium of what has been written on the ſubject.

A Defence of the aſſociate Synod againſt the Charge of Sedition: addreſſed to William Porteus, D.D. in Reply to his Pamphlet, entitled 'The New Light Examined; or, Obſervations on the Proceedings of the Aſſociate Synod againſt their own Standards.' By James Peddie. 8vo. 1s. Hill *and* Ogle. 1800.

It is an uſual and well-known artifice among theological opponents to ſtigmatiſe each other with political crimes; and, unfortunately, very few governors have had the magnanimity of a Gallio, and been willing to leave the combatants to their own diſcuſſions. The charge of ſedition was a very early charge againſt Chriſtians; and it has been conſtantly repeated by the ruling ſects of Chriſtians againſt thoſe who have been deemed heretics or ſchiſmatics. A preſbyterian doctor deemed the late times ſufficiently favourable to ſuch an accuſation; and he accuſes the diſſenters from his opinion,

termed feceders, of fedition: the charge is repelled by the prefent author with prolixity, yet with firmnefs; and being neither feceders nor prefbyterians, and feeing like by-ftanders in a game more than the players, we advife the parties to fhake hands and be friends, to apply each in his refpective calling to the converfion of all to the religion of Chrift, and to leave politics to the politician.

A Letter to the Right Hon. William Windham, on his late Oppofition to the Bill to prevent Bull-Baiting. By an Old Member of Parliament. To which are annexed, fome Letters and Extracts on the fame Subject. Alfo fome Verfes on Hunting; with an Addrefs from a Salopian Bull, and the Author's Apology, attempted in humble Rhyme. 8vo. 1s. 6d. Cadell *and* Davies.

Bull-baiting, throwing at cocks, and cock-fighting, are a difgrace to the nation; and the inftances of cruelty fubjoined to this letter will, we hope, produce due effect upon the legiflature, and tend to abolifh thefe reliques of a barbarous age. There is a degree of flippancy in the mode of addreffing the oppofer of the bill, which injures the argument: but, before the meeting of parliament, the fupporters of the bill will, it is to be hoped, collect every document relative to their intended reform, and place the whole in a candid and difpaffionate manner before the legiflature. By very little perfeverance on their part, the evil complained of will be redreffed; and bull-baiting will not be thought more neceffary to this nation than bear-baiting.

A new Preface to the fecond Edition of Memoirs of the Life, Studies, Writings, &c. of the Right Rev. George Horne, D. D. late Lord Bifhop of Norwich, on certain Points in Theology and Philofophy. (Together with fome Remarks on a Life of Dr. Horne, inferted in a New Biographical Dictionary.) By William Jones, M. A. &c. 8vo. 1s. Robinfons. 1799.

Bifhop Horne, one of the moft amiable prelates that ever adorned the church of England, was attached, though not a bigot, to fome points in the Hutchinfonian fyftem. His chaplain conceives this to have been an excellence rather than a defect in his character; and, to refute thofe who think otherwife, he gives his account of the Hutchinfonian creed, in which, when placed in the moft favourable light, among many things worthy of praife, there are feveral fit objects of cenfure. The opinions of Hutchinfon indeed are now fo generally exploded, that this is a vain attempt to bring them again into notice. If we lament fometimes that the good bifhop was led away in his interpretation of fcripture by this fanciful fyftem, we obferve fo much piety, good temper, and frequently wit in his compofitions, that we can make allowances for the wanderings of imagination by which his early youth had been biaffed.

The Art of Making and Managing Cyder; deduced from Rational Principles and Actual Experience. By Abraham Crocker, M. S. A. &c. 8vo. 1s. Wallis. 1799.

We have seen this essay in different publications, and had occasion to commend it. The separate publication will contribute to render these very plain and useful directions more generally known.

Observations on the English and French Locks, and on one newly constructed. By an Officer of the Guards. 8vo. 1s. 6d. Grellier. 1799.

Our author analyses the construction of the French and English locks, giving the preference, with reason, to the latter. By them, more fire is thrown into the pan, the wet more effectually excluded, and the next man less injured. In an improved lock, he endeavours to excel each; but, from the oblique position of the hammer, less fire will be produced. The flint will only strike it smartly at the upper part, and the fire will consequently be only thrown on the fore-part of the pan. Brass pans, and hammers of better temper, to be used in action, are real improvements.

Advice to the Commanders and Officers of his Majesty's Fleet serving in the West Indies, on the Preservation of the Health of Seamen. By Leonard Gillespie, M. D. &c. 8vo. 1s. Cuthell.

Much experience, assisted by a sound judgement, seems to have dictated this advice, which is delivered in a short and plain form, and merits our unreserved approbation.

REPLY TO A CORRESPONDENT.

IN answer to a 'Constant Reader,' we may observe that the work ascribed to Nennius was edited by one Samuel, with many interpolations. For other interpolations, the MSS. in the British Museum, Bodleian Library, &c. &c. may be consulted. Gale's edition is far from being exact, especially in distinguishing the text from the interpolations; and it would require the diligent labour of many years, and great natural acumen, to give a pure edition of Nennius, with all the interpolations thrown into notes as they ought to be; his work being the most vitiated and corrupt in the whole circle of literature. Mr. Bertram's edition, Copenhagen, 1757, 8vo. is perhaps superior to that of Gale.

ERRATUM.

In p. 295 of this Volume, l. 23, for *such*, read *a*.

APPENDIX

TO THE

TWENTY-NINTH VOLUME

OF THE

NEW ARRANGEMENT

OF THE

CRITICAL REVIEW.

FOREIGN ARTICLES.

Mémoires de l'Inſtitut National des Sciences et Arts, pour l'An. IV. de la République. 6 *Tom.* 4*to.* Paris.

Memoirs of the National Inſtitute of the Sciences and the Arts for the Fourth Year of the Republic. Imported by De Boffe. 1800.

THOUGH accident has prevented us from noticing the laſt efforts of the Royal Academy, we can no longer delay our account of the inſtitution by which it has been ſucceeded. May it equal the reſpectable eſtabliſhment of nearly a century, which has been ſubverted in its favour! From a curſory peruſal, however, of the ſix bulky quartos now before us, we think we perceive a decided inferiority to the former Memoirs; but, without ſuffering our judgement to be prepoſſeſſed, we ſhall diſpaſſionately examine ſome of the more important articles, and give a ſhort account of even the inferior ones.

The conſtitution of the National Inſtitute has been the ſubject of ſo much diſcuſſion in periodical works of various kinds, that our readers cannot be ignorant of its nature or objects. We do not recollect that it has occurred in our Journal, but it is unneceſſary to ſpeak at length of an inſtitution, of whoſe works we mean to give a hiſtory, and a brief view of it will probably be ſufficient.

The old monarchy, rich in inſtitutions which reflected honour on the nation, and adorned with equal ſplendour litera-

ture and the arts, could boast of two whose excellence was unrivalled, and which pursued their career through numerous succeeding volumes with unabated spirit. These were the Academies of Inscriptions and of Arts and Sciences. The numerous volumes of the first are distinguished by sound learning, and a correct classical taste; those of the second have explored, with the happiest success, the most recondite paths of science.

The new Institute comprehends these two academies, the Royal Society of Medicine, and an additional department. The three classes into which it is divided, are, I. Mathematics and Natural Philosophy; II. Morality and Politics; III. Literature, and the fine Arts: the second class is new. The first class is designed to comprehend mathematics, mechanical arts, astronomy, experimental philosophy, chemistry, natural history, botany, anatomy and animal history, medicine and surgery, animal œconomy, and the veterinary science. The second class is divided into the analysis of sensations and ideas, morals, legislature, political œconomy, history and geography; the third class into universal grammar, ancient languages, poetry, antiquities, painting, sculpture, architecture, and music. We cannot think this division happy or useful. It has been found, that societies, with different and opposite objects, have seldom succeeded. Few will attend, if the probable entertainment of the evening is likely to be of a nature opposite to that which has engaged their chief study; and we have seen, even in our own time, a respectable society dwindle into insignificance by an extension of its plan. It may indeed be alleged, that these are in reality three societies under the management of very different members, connected by little more than the slight band of a title, and four annual meetings. But this only weakens the objection, without removing it. The subjects of every separate division are extremely heterogeneous, and some of them have scarcely any mutual dependency whatsoever.

There is another circumstance of some delicacy, which we shall merely hint at. The former members were connected with science and the academy, by a small pension. It was considered as a pledge of their attention, and an incentive to their exertions: it appears to have proved so. Though this pension was but small, it was adapted to the academician's wants, and the circle within which he was confined. At present, the exertions, we apprehend, are all voluntary, and we fear that, on this account, they may sometimes be relaxed, and occasionally fail. The present is not the period when deep study and profound research will become fashionable; and, while this is a subject of regret in general, it reflects the highest credit on our countrymen, who, without the most di-

ſtant proſpect of reward, have advanced ſcience in ſo many departments.

When we examine theſe volumes generally, we ſhall be ſtruck with the variety of their ſubjects, and from recogniſing many of the names, conſpicuous under the ancient régime, we anticipate, with reaſon, a rich harveſt of information. Yet remembrance will force its way, and we ſhall aſk, with a ſigh, Where is Viq d'Azyr? Where is Lavoiſier? Where is—But the taſk is a tedious and a painful one, and would introduce obſervations unconnected with our principal ſubject. As affording the moſt important articles, we ſhall firſt take up in detail the two ſcientific volumes.

The firſt part of the volume, which contains the mathematical and philoſophical papers, relates to the prizes; and we find the National Inſtitute has adopted one of the children of the old academy, by continuing the reward for the following deſign—'The conſtruction of a pocket-watch for the determination of the longitude at ſea, of ſuch a nature that the diviſions may point out decimal parts of a day.'—In other words, that the day may be divided into ten hours, the hour into 100 minutes, and the minute into 100 ſeconds. They have, however, limited the conditions to a watch whoſe diviſions mark the decimal parts of a day.

The ſubject of the ſecond prize, from the phyſical claſs, is a compariſon of the nature, form, and uſe of the liver, in different claſſes of animals.—This is alſo an adopted child from the former inſtitution, and the objects are well illuſtrated from their programma; but we need not explain them, particularly as the term is expired. The prize for each is a gold medal, of the value of a kilogramme, and the philoſophers of all nations are invited to become candidates. It is *recommended* that the eſſays be written in French or Latin, but any other language is not excluded.

A liſt of the works which, in the opinion of the Inſtitute, deſerve to be printed in the volume of 'learned foreigners,' follows. Theſe are, 1ſt, Obſervations on the Births, Marriages, and Deaths, at Montpelier, from 1772 to 1792, incluſive, and the Calculations relative to the Probability of the Duration of Human Life, ariſing from them. 2dly, On the Oppoſition of Jupiter and Mars, obſerved by M. Bouvard. The machines, inventions, and preparations, approved by the claſs, are the metallic thermometer of M. Regnier, the crayons of M. Conté, and the anatomical preparations in wax by M. Laumonier: the laſt are judged to be ſuperior to any thing ever before executed of this kind. A liſt of the works preſented to the Inſtitute is ſubjoined.

What was uſually ſtyled an *éloge* is now called an 'Account or Notice of the Life and Works,' &c. The 'notices'

in the firſt volume contain the lives of M. Vandermonde and M. Pingré. The fulſome ſtyle of exaggerated panegyric is now reduced to a dreſs more modeſt, but ſomething of the old ſchool ſtill remains. The latter has, we find, completed the Hiſtory of Aſtronomy during the Fifteenth Century, and it is now in the preſs.

The firſt article is entitled ' A Memoir on the morbid Protruſion of the Tongue, out of the Mouth, by Pierre Laſſus.' Much medical erudition is thrown away on a very trifling ſubject. The diſeaſe is not the hernia of the tongue, mentioned by Sauvages, but an elongation of the organ, and to be cured by repreſſing with a bandage, and keeping it within the mouth by a kind of bridle. We are pleaſed with the invention, and could it have been adapted alſo to have reſtrained the author's pen, it would have ſhortened this memoir, and ſaved us many head-achs.

' II. Obſervation on the ſpontaneous Separation of the Tibia and Fibula in their middle Parts, in conſequence of a Sphacelus, by M. Deſeſſartz.'

We wiſhed again for the bridle to have ſhortened this narrative of no uncommon fact. The author would have done wiſely to have amputated when the ſeparation began.

' III. An Examination of the Facts which Girtanner has adduced in Favour of his Opinion reſpecting the Nature of the Radical of the Muriatic Acid, by Van Mons.'

This eſſay has already occurred to us, in our review of the Annals of Chemiſtry. They are followed by

' IV. New Experiments, tending to prove whether Hydrogen forms the Radical of the Muriatic Acid.' Van Mons decides in the negative.

' V. Obſervations on the Structure of the Cryſtals, called Zeolithes, and on the electrical Properties of ſome of theſe, by M. Hauy.'

This memoir is incapable of abridgement. We have often regretted that it is impoſſible to bring this very important part of mineralogy within the reach of general readers, both on account of the mathematical obſcurity of the deſcriptions, and the want of plates.

' VI. Proceſs for diſſolving the elaſtic Gum in ſulphuric Æther, by M. Pelletier.'

This proceſs conſiſts of boiling the gum, then cutting it in ſmall pieces, and again boiling it, before it is put into a matraſs with the æther.

' VII. Obſervations on the Strontian, by M. Pelletier.'

This is a very able and judicious memoir; and, though the author does not add greatly to our knowledge on the ſubject, we may be allowed to collect into one view the different facts of importance, which diſtinguiſh ſtrontian from barytes, and

establish its claim as a new earth. He finds the carbonate of strontian is not poisonous, like the native carbonate of barytes, nor emetic, like the artificial carbonate of barytes. It is specifically lighter than the carbonate of barytes, and abandons its acid more easily when heated, though it contains, in general, a larger proportion than the latter. Calcined strontian appears to be soluble both in cold and hot water, but more copiously in the latter, so as to crystallise when cooled, a property common to it and barytes. The nitrats and muriats of strontian appear more soluble than the corresponding barytic salts: the flame of alcohol, to which the former are added, is blue; with the latter, a yellowish white. The strontian appears to contain no lime, and the nitrat of strontian is not decomposed by prussiat of pot-ash, like the nitrat of barytes.

'VIII. Memoir on the Place of the Node of Saturn's Ring in 1790, by Honore Flaugergues.'

Astronomers have hitherto not succeeded to their satisfaction in ascertaining the longitude of the node. Our author, who observed at Viviers, in the Vivarrais, ascertained the time of its appearance, in 1789 and 1790. The position of the descending node, in 1790, was consequently found to be $11^s\ 20^\circ\ 52'\ 59''$, differing from the position, as determined by Lalande, only in 17′. Comparing these with the observations of Maraldi, in 1714 and 1715, the node of the ring appears to have a retrogade motion on the ecliptic, amounting to about $2^\circ\ 30''$ in 175 years, probably caused by the attraction of the satellites, chiefly by that of the 5th satellite.

'IX. Observations on the two Processes employed for the Fabrication of Verdegris, or Acetite of Copper, by M. Chaptal.'

The first, employed at Montpelier from time immemorial, consists in fermenting the mock of the grapes, and stratifying it with plates of copper, to oxydate the metal. The second is an invention of a later date, at Grenoble, and in its neighbourhood, and is confined to sprinkling the plates of copper with distilled vinegar. The first is cheaper, and better adapted for the painter, but the latter is dryer, of a more crystalline hardness, and more useful in dyeing. The difference between these two preparations is, that the former contains the acetite of copper, mixed with the extractive matter of the grape: in the latter the salt is purer.

'X. Observations on the Soap of Wool, and its Use in the Arts, by M. Chaptal.'

This article we long since noticed. It was published, soon after it was read, in 1796, in the Annales de Chymie.

'XI. Astronomical Observations made at Viviers, in the Department of Ardeche, by Honore Flaugergues.'

These observations are incapable of abridgement.

'XII. Experiments made by Order of Government on the Navigation of the Seine, by M. Forfait.'

The necessity of a speedy conveyance between Rouen and Paris was severely felt in the dearth of 1794, and the government directed an inquiry into the most convenient form of a vessel, to sail up and down the Seine, with the greatest rapidity, by means of a sail, and to ascertain the different curvatures of this circuitous river, in order to facilitate the navigation, and avoid the other difficulties which it presents. The commissioners seem to have executed their task with ability; but, independent of the discussion being of local importance only, the want of a map will prevent our enlarging on it.

'XIII. A Memoir on the Effects of the Cold of Ventose, An. IV. (February and March, 1796), on different Vegetables, and particularly the Pear-Tree, by M. Héritier.'

After an open winter, the thermometer (Reaumur's) sunk 6° below the freezing point, and continued so from the 26th of February to the 10th of March. By this severity of weather the nut-tree was not injured, since its fruit is so carefully defended by the calyx. Other trees were greatly hurt, but the most singular effects were observable on the pear-tree. Though the flowers were apparently uninjured, the pedicle was seemingly blighted. Yet many of the pears increased, and the liber (inner bark), as well as the epidermis, were not so much injured as the external wood and medulla. These were found wholly sphacelated, while the liber had deposited fresh woody strata: the pediculi of each floret were scarcely, if at all, affected. On a particular examination, it appeared that, at the time of the frost, the corymbi were beginning to expand at the base, that the external florets were only affected, and it is precisely with the base of the bud that the pedicle of the corymbus corresponds. This part, therefore, was alone injured. It is singular, that the part of a flower, most sensible to the cold, is the pistil. The stigma, the style, and the germ, feel successively its effects. The next organ, in point of sensibility, is the stamen. This, corresponding with the effects of cold, which is greater on the medullary substance, and on the wood, than on the liber or epidermis, appears to confirm Linnæus's celebrated canon. 'Calyx fit ex cortice, corolla ex libro, stamina ex substantia lignea, pistillum ex propria medullari substantia.'—Various insects, and even the caterpillars that were hatched, resisted this extraordinary cold, but they were probably driven to some shelter: those whom the cold apparently surprised, were killed.

'XIV. A Memoir on the Locked Jaw, which is the consequence of Wounds, by M. Sabatier.'

The locked jaw is apparently uncommon in France; for

M. Sabatier, a surgeon of ability and reputation, had seen few instances prior to 1772. His practice was rather unsuccessful; but the complaint is very seldom cured, and, in some of the cases, he confessedly failed by giving opium with too great timidity. In one, this fault could not however be imputed to him, for his patient took thirty-six grains of solid opium in twenty-four hours. On the whole, the practitioners of this country will not derive any very considerable advantage from the memoir before us.

'XV. Observation on the Operation of the Trepan performed on the Thigh Bone. By M. Tenon.'

This operation, which consists in taking out an injured portion of the bone, has been more than once performed in England with success. We do not recollect, however, that the trepan has been applied, as in the case before us, to the great trochanter, but it succeeded well. M. Tenon found great difficulty in conquering the loose spungy granulations from the bottom, or medullary part of the bone, but he employed, with the greatest advantage, the lapis infernalis. The disease was owing to a bruise on the part five years before, carelessly neglected.

'XVI. Inquiries respecting the Human Skull. By M. Tenon.'

This is an article of laborious research and minute calculation, which admits of very extensive application, and, of course, requires our careful attention. The particular measures we shall not always notice, for they are adapted to French heads, and a Frenchman's head is neither so large, nor perhaps so deep, as some others. We mean not to trifle; but shall add, from our author, an anecdote, premising only that by 'the north' a French author more frequently means Holland and Flanders, than Denmark and Sweden.—'A cargo of hats, which the late M. Chatelain, a famous manufacturer at Paris, sent to *the north*, on blocks of one decimeter sixty-two millimeters, and one decimeter eighty-nine millimeters in diameter, like those prepared for the inhabitants of Paris and *South America*, were returned as too small. They were required from the largest size to two decimeters seventeen millimeters. This measure was considered as extraordinary, as the mean size with the hatter's compass is one decimeter seventy-six millimeters at mature age, and one decimeter forty millimeters at one year old*.'

From our author's very attentive examination of different

* The folly of changing established measures is in no respect more conspicuous than in the disturbance of that universal language, arithmetical notation. The decimeter is nearly four English inches, and the centimeter $\frac{4}{10}$, and the millimeter $\frac{4}{100}$, or 0.4 and 0.04 respectively. Rev.

skulls, it appears, that from birth to six years of age, the head increases more in the direction of the largest circumference and diameter, than in that of the smallest: after six years, an increase in the opposite direction takes place. In extreme old age these measures lessen, except the large circumference, which still seems to grow a little, and the small diameter, which continues nearly the same as in the vigour of life. The greatest diameter and horizontal circumference are situated about an inch higher at birth than in mature age, which shows that these sink lower in the progress of life. In comparing the increase of the cranium by measure with that by weight, from infancy to mature age, it appears that, by measure, it exceeds at the former period half what it attains at the latter, while, in weight, it has not in infancy attained the twentieth part of what it afterwards acquires. The æra therefore of its greatest and most rapid increase in measure, is from conception to birth, which explains the source of numerous accidents to which the heads of embryos are subject: these the author promises to explain in a future memoir. He finds also, that the most considerable increase in extent is from birth to the sixth year; in weight, from that period to the vigour of life. Its decrease in decrepitude is real, but less in extent than in weight, amounting in the latter to $\frac{2}{5}$ of the mean weight in the vigour of life. These are facts which cannot be contradicted; but, when the author steps from the ground of fact to that of opinion, he is entitled to less attention. Thus he remarks, that, as in the vigour of life the earth is most copiously produced in adding to the solidity of the bones, and in old age absorbed in consequence of the diminution of weight, so these periods are most subject to the calculus vesicæ, which consists of the same earth, a conclusion opposed by fact in every part.

'XVII. A Memoir on the Advantage and Necessity of taking only a little Blood at once in Children with large Heads. By M. Desessartz.'

Perhaps the precept may be proper, and it certainly merits attention; but the most singular part of the memoir is the case which suggested the proposal, though we would guard against drawing the conclusion that the same structure takes place in every large head. The child died of a fever, and the cause of his death was certainly inflammation and gangrene in the stomach and intestines; but, on examining the head, which we have said was large, the ossification was found complete, without any traces of sutures, or of a communication by blood vessels from the external to the internal parts, consequently when the latter vessels had a surplus the usual channels of relief were stopped, for there was not the vestige of a single vessel penetrating the bone. There was also very little blood in the ventricles, and the dura mater compressed the brain very

forcibly. Though we object to M. Desessartz' conclusion generally, yet perhaps it may be admitted in the second instance, the brother of the child who died. His head was equally large, he was attacked with fever, and cured by repeated small bleedings.

'XVIII. State of Agriculture in the Canary Islands. By H. A. Tessier.'

This author has formed a magnificent plan,—to give an abstract of the state of agriculture of every country, by circulating queries in different kingdoms. The memoir before us is the result of his inquiries into the state of the Canary Islands. He gives some account of the climate, &c. of these islands, and then proceeds to his detail. In the neighbourhood of Teneriffe, the ground, though stony, is very fertile, producing often eighty and a hundred for one. The other islands are fertile, but not in the same degree. Manures are scarcely known, though the islands produce a large quantity of marl and sea wrack. Fortaventure and some others contain numerous herds, and their dung is thrown with little care, and without any admixture, on the ground and the gardens. The productions are corn, a little rye, a large quantity of barley and maize, potatoes, artichokes, and vetches. For animals they cultivate lupines, pease, lentiles, millet, and a few oats; for the arts, a little flax, aniseed, coriander, and saffron: wood, sorrel, and sumach, grow spontaneously. Kali grows on its shores, and the cotton-tree and sugar-cane find the climate congenial to them. The wines of Teneriffe and the neighbouring islands are well known. The more minute details we are unable to follow. The stupidity and idleness of the inhabitants defeat the kindest intentions of nature, and few exertions are made to increase the comforts or conveniencies of life.

'XIX. A Memoir on the Abuse of Clearing Grounds. By H. A. Tessier.'

These remarks are highly judicious, but they are chiefly applicable to France. In the rage for clearing grounds, M. Tessier tells us, that woods have been grubbed up, and sheep-walks destroyed; and he particularly recommends that no woods should be destroyed without as much being again planted. In England we do not depend on wood for fuel, either in the arts or private life; and we have found that, with care, we can procure fine wool without extensive sheep-walks. In England and Scotland, however, after every inch of fertile ground has been cultivated, many elevated and otherwise useless spots will remain for the sheep, even should the weak idea of the fineness of the wool being connected with a free extensive range still be cherished.

'XX. Observations on the Juices of some Vegetables, and

on the Means by which the Carbon circulates through them, and is deposited to supply their Nourishment. By J. A. Chaptal.'

This short memoir contains much valuable information. Our author had been before engaged in examining the juice of the euphorbium, and he now proceeds to consider the vegetable juices more generally. The precipitate of the juice of the euphorbium is composed of $\frac{1}{3}$ of fibre and $\frac{2}{3}$ of resin, which are soluble in water by means of the extractive matter. They are separated by caloric, oxygen, acids, alkalis, alcohol, and even by rest. With oil, this precipitate forms a kind of soap, and it is singular that the union is effected by means of water. The emulsions and the juices of the herbaceous plants offer similar appearances. They differ only in the quantity of the precipitate, and the ease with which it is obtained. The precipitates from decoctions contain much of the ligneous matter, which is, with difficulty, separated. Seeds contain the largest quantity of precipitate, and of course the largest proportion of carbone, for the fibre is wholly carbonaceous. Thus the nutriment of plants is entirely of the latter kind, for their oxygen and hydrogen are furnished by the decomposition of water; and into these elements all plants may be resolved.

'If we compare these results with the appearances which the nutritious fluids of the animal body present, we shall be struck with their identity. Milk is decomposed by the same reagents, and its precipitate has the same texture with that of vegetables. It is equally insoluble in water, is dissolved by oil, and contains also the fibrous part. The liquor which rises to the top is clear, limpid, and contains a small portion of a saline extractive matter. The difference consists in the nature of the elements of these component parts; for, after this first analysis, farther decomposition shows no other relation between them. The blood is equally analogous in its texture. In this, the fibre is separated by cooling only. If the separation is prevented by agitation, and oxygenated muriatic gas passed through it, every bubble concretes the surrounding parts, and the whole is a mass of greyish bubbles, without any remaining fluid.'

As the fibrous matter becomes solid, and no longer soluble when united with oil, the necessity of impregnating the vegetable fibres with oil, previous to dyeing, is obvious, in order to obtain a more fixed colour; and when any extractive matter is present, as is the case when the juices are obtained by expression, they will not combine with oil. Hence the necessity of cleaning the cloth very carefully before the dye is employed, will be equally clear. In the process of the vegetation the carbon is dissolved in water, and thus conveyed

through the veſſels of the plant. Carbon is ſoluble in water by means of extractive matter, and is furniſhed by decayed vegetables.

'XXI. A Memoir on the Motions of the Celeſtial Bodies round their Centres of Gravity. By M. La Place.'

This very ingenious and elaborate memoir, where the moſt minute and intricate reſources of analyſis are employed with the happieſt ſucceſs, cannot be abridged. It exhibits an elegant and accurate theory of twenty rotatory motions, and their periodical and ſecular variations. M. la Place ſhows, that the only ſenſible change in the axis of the earth, with reſpect to the plane of the ecliptic, depends on the longitude of the lunar nodes, which has been called, by its firſt diſcoverer, Dr. Bradley, nutation. Another ſmall inequality, not exceeding a ſecond, we may omit in this place. The ſecular variations of the terreſtrial orbit produce correſponding, but diſproportioned variations, in the poſition of the earth's axis. This checks the too great obliquity of the ecliptic, and produces ſome ſlight aſtronomical variations, which are of importance to the profeſſed aſtronomer only, who will purſue them in this very learned memoir. The earth, our author thinks, by comparing its motions with the theory given in the Memoirs of the Academy of Sciences, is not homogeneous, and its oblateneſs does not exceed $\frac{1}{304}$ part of its diameter.

'XXII. A Plan of the Experiments now making in the Botanic Garden on Sheep and other domeſtic Animals. By M. Daubenton.'

We with pleaſure renew our acquaintance with this reſpectable veteran, the friend and aſſiſtant of Buffon. In this article we have, however, only the plan of propoſed experiments. Theſe are, on the union of the ram and ſhe-goat, or the he goat with the ewe; on folding ſheep; on the Siameſe hog, and its utility as an article of food; on the methods of improving the domeſtic rabbit, ſo as to give its fleſh the flavour and reliſh of the wild ones, which he purpoſes to attempt by varying their aliment. The principal experiments relate however to the food of ſheep, and the author is inquiring, with particular attention, what vegetables ſheep will eat when they cannot obtain their favourite food.

'XXIII. Obſervations on generic Characters in Natural Hiſtory. By M. Daubenton.'

Our author is diſguſted with the language of modern obſervers, who ſpeak of or deſcribe a new genus, when their object is to delineate the form or the properties of an individual. We cannot refrain from copying the little pettiſhneſs of old age, perhaps the laſt ſhaft levelled at the Linnæan ſyſtem, *almoſt at the concluſion* of the eighteenth century.

'What superiority then has a genus or a species over a class, that naturalists should begin by thus first announcing it, by thus bringing it forward. I foresee that the methodists will immediately refer me to the Linnæan school to learn the reason—I already know it—I have witnessed the birth of this school—I have seen the origin of this mass of principles, of rules, and precepts, invented to raise the methods of natural history to the rank of philosophy.'

Though much of the same spirit prevails in the present article, it may be read with advantage. The sum of the whole is, that the formation of genera is an artificial labour, and the business of an observer is to describe individuals, without hastily forming incongruous associations, which time and farther inquiry will again destroy. The following confession (perhaps the last words of this author) deserves attention.

'We must then employ systems, though not always agreeable to nature: they have considerable advantages which cover as great faults. They are artificial and crafty guides, which we must distrust the first moment they pretend to follow nature with minute exactness.'

'XXIV. Means of augmenting the Production of Wheat on the Soil of the French Republic, by folding Sheep, and the Suppression of Fallows. By M. Daubenton.'

The title sufficiently expresses the object of the memoir. The advantage derived from folding sheep is in consequence of their excrementitious discharges being employed uninjured by evaporation or mixture.

'XXV. Memoir, illustrated by Cases, on the Small-Pox, and on its Complication with Scarlet and Miliary Fevers and other Depravations of the Humours. By M. Dessart.'

This is a well arranged, though tedious, history, of an epidemic small-pox, to which, about the termination, the two other epidemics were added. Their coincidence produced no remarkable appearance, nor materially altered the treatment, except that the cold regimen was not pushed to so great an extent. Indeed, in general, our author is timid in employing cold very rigorously, even in the common small-pox. The memoir itself we can scarcely abridge, but it may be read with advantage, though the English practitioner will often think the remedies trifling.

'XXVI. Memoir on the Organisation of the Monocotyledons, or Plants with one Seminal Leaf. By M. Des Fontaines.'

Our author, in this excellent memoir, first speaks of the cotyledons in general, and denies the existence of the classes of former botanists, which they styled acotyledons and polycotyledons.

The firſt, which contained the moſſes, were really plants belonging to thoſe whoſe organiſation he deſcribes, and the latter, deeply indented dicotyledons. In his deſcription of the ſtructure, the illuſtrations are taken from trees, as the parts are more perfect, and he premiſes a ſhort deſcription of the dicoledons, the only ones which authors have hitherto noticed. 'The ſtalks of the monocotyledons contain the ſame organs, but with differences ſo pointed, that we are obliged to admit in the vegetable kingdom two great natural claſſes, independent of every method and every ſyſtem.' This difference is diſtinctly pointed out in a great variety of families, which compoſe the order of monocotyledons, ſuch as the palm-trees, the graſſes, the aſparagi, the ruſci, the lilies, moſſes, &c. The definitions of theſe natural claſſes we ſhall tranſcribe.

'1. Vegetables which have no diſtinct concentric ſtrata, whoſe ſolidity leſſens from the circumference to the centre; the medulla interpoſed between the fibres, without any medullary elongations in diverging radii.

'2. Vegetables which have concentric ſtrata, whoſe ſolidity leſſens from the centre to the circumference; the medulla incloſed in a longitudinal canal, with medullary elongations in diverging radii.'

Our author would not, with Linnæus, ſeparate the cycas from the palms. Theſe deſcriptions are illuſtrated with five plates.

We purpoſed to have finiſhed our review of this volume, but the article is already unuſually extended. We ſhall again take it up in a future Appendix, and probably enliven it with an intermixture of ſome of the lighter entertainments from the volume that follows.

Traité du Calcul Differential et du Calcul Integral. Par S. F. La Croix. Paris.

A Treatiſe on the Doctrine of Differentials or Fluxions. 2 *Vols. 4to.* 2*l.* 2*s. ſewed.* Imported by De Boſſe.

IN the midſt of war and faction, the ſciences have found able advocates in France; and if at one time the poſſeſſors of power ſeemed to have been the determined enemies of all knowledge as well as of all virtue, the preſent government is haſtening to bury in oblivion the error and crimes of the revolution, by an attention to the arts which diſtinguiſh a civiliſed nation. The mathematics are particularly held in honour, and it may be well imagined that they muſt be purſued with ſome alacrity, ſince the chief conſul is ſo able to appreciate their merits; and

Carnot, ſuppoſed to be the ableſt war miniſter in France, has not been prevented by the fatigues of his office from purſuing his inquiries in the moſt difficult parts of fluxions and algebra. The names of La Croix, Legendre, La Grange, La Place, the labours of the Inſtitute in meaſuring a degree on the ſurface of the earth, in arranging the new ſtandard of meaſures, in improving their logarithms, and accommodating their new tables of ſines and tangents to the old diviſion of the circle, theſe acts, together with the work before us, and ſimilar productions, ſhow a degree of activity, energy, and ſcience, not to be paralleled in the reſt of Europe. In whatever eſtimation we may hold our neighbours on the continent for their ſpeculations in government, juſtice compels us to point out the ſtriking contraſt between this new republic and the moſt extenſive empire in Europe: whilſt, in the latter, the admiſſion of foreign literature is regarded with extreme abhorrence by the ſovereign, the chief of the republicans is endeavouring to make his reign flouriſh as much in arts as in arms, and ſcience and literature receive from him unbounded patronage.

La Croix, the author of the work before us, and profeſſor of mathematics in the central ſchools, was well known under the ancient government, and had diſtinguiſhed himſelf by ſeveral intereſting memoirs in the Academy of Sciences, among which that on the Tables for the Sun, and another, which obtained the prize for the beſt theory on maritime inſurances, deſerve particular notice. In his new office of mathematical profeſſor, he perceived the want of a complete work on fluxions, which ſhould not only fix on a ſure foundation the principles of the ſcience, but collect together the improvements made in it, which were diſperſed through the works of Euler, D'Alembert, the Bernouillis, and others, as well as the academies of Italy, Paris, Berlin, and Peterſburg. In conformity to his views he drew up a plan of his intended work, and preſented it to the Inſtitute, together with the introduction, and the four firſt chapters. The Inſtitute referred it to the examination of La Place and Legendre, who returned it with the higheſt commendations, and, from the ſpecimen which they had read, gave their teſtimony to the merits of the author, whoſe work was, in their opinion, likely to be diſtinguiſhed for choice of methods, purity and ſtrictneſs of demonſtration, and the extenſive application of its precepts.

Such a recommendation naturally inſures to the work a favourable reception in the mathematical world; and as it ſtands not in need of our praiſe, we ſhould, after ſuch authority, with diffidence propoſe our cenſures. It is evidently the production of a very profound mathematician, and it embraces the moſt difficult parts of the ſcience. If the young people of France can enter ſo deeply into theſe ſtudies, for the author profeſſes

to be animated only with a wiſh to make his book uſeful to them, their central ſchools muſt be far advanced before our univerſities; for, inſtead of the young people, we ſhould place it rather into the hands of the profeſſors of Britain. But we haſten to give our readers ſome view of its contents, from which they will be enabled to judge how far our opinion is well founded.

The work is contained in two volumes, quarto, of which the firſt extends through upwards of five hundred, the ſecond upwards of ſeven hundred pages. In the firſt volume is a ſlight hiſtory of the diſcovery of fluxions in the preface, and an introduction, explaining our author's views of thoſe algebraical terms which he calls functions, and on which he builds much of his theory in the body of the work. In the preface he attributes due honour to ſir Iſaac Newton, without depreciating from the merits of Leibnitz; but he is evidently not much acquainted with the opinion of the mathematicians now alive in Britain, when, in ſpeaking of Landen, he obſerves, that Landen had freed himſelf in a remarkable manner from national prejudices, and is 'the only geometrician among the Engliſh who agreed with foreigners on the great inconvenience in the method of fluxions.' The name of Newton, and the name of fluxions, have indeed contributed much to prevent our mathematicians from inquiring ſo rigidly as they ought into the principles of the ſcience; yet are there not wanting many who have expreſſed their diſapprobation of introducing the ſuperfluous idea of velocity in the conſideration of algebraical terms, and look upon the infinite variations of this velocity as not only more difficult of apprehenſion, but leſs juſtifiable than the diviſibility introduced but ſparingly by ancient geometricians. In fact, the Engliſh have been too tenacious of their method, from the ſuppoſed honour which it beſtows on the inventor, and thence on the nation which produced him; for if we ſtrip the invention of the dura hypotheſis, and unneceſſary quality of velocity, the conteſt between the German and Engliſh philoſopher will loſe much of its intereſt, and the maſter of ſir Iſaac Newton may put in his claims for a greater ſhare of merit in the invention than has hitherto been beſtowed upon him by the advocates for either Newton or Leibnitz.

The diſpute on the invention of fluxions, it is properly obſerved by our author, had not ſo much in view the intereſt of truth 'as the paſſions and ſelf-love of ſome men of moderate attainments, who would have paſſed through life without notice, if they had not intruded themſelves into the conteſt.' But let the honour be given to whom it is due, whether to our own countrymen or to a foreigner; ſurely it is of more conſequence to remark, that, though the ſuppoſed new ſcience

exiſts under different names in our iſland, and on the continent reſts on different baſes, yet, when we have removed the terms fluxion and difference, view an operation on paper, where the one is diſtinguiſhed by a point, and the other by the letter d, the mode of treating algebraical terms and the concluſions are exactly the ſame. Hence, if we aſk the fluxioniſt for the fluxion, and the differentialiſt for the differential of x^2, we receive from the former $2\,x\,\dot{x}$, and from the latter $2\,x \,.\, d\,x$. The latter allows that when $d\,x$ is a conſiderable magnitude, the true difference between x^2 and $\overline{x + d\,x}|^2$ is $2\,d\,x + d\,d\,x$. The former obtains alſo his $2\,x\,\dot{x}$ from conſidering the increment $2\,x\,\dot{x} + \dot{x}^2$, and $2\,x\,d\,x$ is to $d\,x$, as well as $2\,x\,\dot{x}$ to $\dot{x}$ in the naſcent ratio of the increments of x^2 to x. Here the fluxioniſt conceives that he can introduce his velocity to advantage, becauſe he can make a point to move over a ſtraight line uniformly, which he calls x; whilſt another point moves with an accelerated motion over another line, and the correſponding ſtates of the two lines are to each other in the ratio of x to x^2. But is not the method of the differentialiſt more ſimple as well as obvious, and more applicable to the future complexity of algebraical terms? His $d\,x$ means a number to be added to x; and he can ſhow, by the ſucceſſive application of ſmall numbers for $d\,x$, that the ratio of the increment of x^2 to that of x is conſtantly approaching to that of $2\,x\,\dot{x} : \dot{x}$, or of $2\,x$ to 1; whereas the fluxioniſt cannot make it eaſy to our conceptions, that though the velocity of his point, deſcribing the line meaſured by x^2, is always leſs than that which would carry it through the ſpace denoted by $2\,x\,\dot{x} + \dot{x}^2$, yet it is to that of the point deſcribing x, in the ratio of $2\,x\,\dot{x}$ to $\dot{x}$, or of $2\,x$ to one. The caſe of the differentialiſt we ſee clearly; it is even made tangible; the differences may be expreſſed in numbers, and we have as clear an idea of ,0000001 as of 1000000. But this notion of velocity eſcapes us in the ſimpleſt caſe; and when it is applied to terms like $\frac{x^{m+n}}{y^{m+o}} + \frac{b\,x\,y^m}{x^m y}$, we ſhall find that the fluxioniſt never thinks of his velocity, and that he acts and thinks, if he does not, like a once noted profeſſor at Cambridge, act mechanically, exactly as the differentialiſt. Indeed, much of this diſpute would have been rendered ſuperfluous, if the diſputants had inquired into their own conceptions of the changes in algebraical terms, and had diſcovered that the whole reſolved itſelf into an increaſe or decreaſe of a number.

To the heads of the two ſchools then we are inclined to pay due honour; yet the merits of both have, in this reſpect, been too highly extolled. Their ſucceſſors have laboured honourably in their reſpective paths, and it may be attributed to na-

tional prejudices, if we do not allow entirely the justice of the following remark. ‘ The school of Leibnitz has shown a decisive superiority over that of Newton, arising, perhaps, as much from the simplicity in the method of the former, as from the genius of the Bernouillis, his scholars. Yet about the same period we see in England, Cotes, who died very young, extending, by the discovery of his theorem, the bounds of quadratures. Moivre, whom France is entitled to reclaim, arriving at important discoveries, and Taylor, by developing the method of increments, whose base was laid by Newton, in his Methodus Differentialis, completing, we may say, by the theorem which bears his name, the differential calculus.’ In this remark the nationality of the Frenchman appears. Science knows no distinction of nations, and the sons of science are the citizens and benefactors of the world. No nation has a right to derive honour from the casual birth of a man of letters or science within its limits, if the individual, when living, derived no advantage from his connection with the country, showering down honours and emoluments on his contemporaries, without genius, without talents, without application, and treating him with slight and contempt, leaving him to poverty, or perhaps, as in the case of Moivre, banishing him from her bosom. Let these foolish prejudices be removed, that nations may learn to bestow due honour on living merit, and cease to rebuild the monuments of the prophets stoned by their fathers.

Our author is a Leibnitzian. His science is the science or method of differentials, which, like the method of fluxions, is divided into two parts; the first, to find the differential of a term; the second, from the given differential, to find the term. In the first volume the first part is considered; the second part is the subject of the second volume. To the first part is prefixed an introduction, giving the theory of functions, which are distinguished into exponential, logarithmical, transcendant, and circular functions; and the following general definition is given of a function.

‘ Every quantity, whose value depends on one or more quantities, is said to be the function of these last quantities, whether it be known or not what operations must be performed to obtain the value of the first quantity from the last quantities.’

Thus the root of an equation of five dimensions is a function of the coefficients of that equation, because its value depends upon those coefficients. If $y = ax^2 + bx + c$, then y is a function of x; and if $y = axz + bx^2 + cz^2$, then y is a function of x and z. The consideration of these functions, which is carried to a great extent, does not present to our view

so many advantages as to the writer; they naturally arise in every system of algebra; or if, as in this work, the sine is called the function of the arc, the examination is made, though under different terms, in every book of trigonometry. If $y = \frac{ax}{x+a}$ in any system, the values of y are considered; and in this work the only difference is, that the writer says that the function of x is not capable of passing through every degree of magnitude, though x is; for we should say that y is contained between o and a, and, in fact, the whole of the reasoning upon these functions will be intelligible at once to every one who considers the usual equation

$$y = Ax^{\alpha} + Bx^{\beta} + Cx^{\gamma} + Dx^{\delta} + Ex^{\varepsilon} +,$$

and investigates the values of y upon the variations of either x, or its coefficients A, B, C, D.

Our limits do not permit us to give the examples of our author's method in the examination of the binomial theorem, which is, in fact, much more complicated than in the usual process, when

$$\overline{1+x}|^{n} = 1 + Ax + Bx^2 + Cx^3 + Dx^4,$$

is multiplied into $1+x$, and thence the law of the coefficients is discovered. In the same manner the series for $y = a^x$, or

$$A_0 + A_1 x + A_2 x^2 + A_3 x^3 + A_4 x^4 + A^5 a^5 +,$$

affords too much expansion, in our author's style, for the precision of an English mathematician; and, though we approve highly of the investigation of the values of an arc in terms of the sines, cosines, and tangents, there seems throughout an attempt to clothe the functions with some new idea of importance, and to bring forward, in a more imposing form, a degree of knowledge which has long been familiar, though this may appear bold language in Paris, to us on this side of the water.

In eighty pages of introduction, we have a sketch of the doctrine of functions, and become anxious to enter on the differential doctrine. The first chapter of the work professes in its title to explain analytically the principles of this doctrine, and we hope to have an early insight into the new mysteries; but as Pascal, we are told, happily informs us that definitions consist in imposing a 'name only on things marked out clearly in terms perfectly known,' we must be content to wade through more than twelve pages of functions before we come to the description of the science. Quantities are either variable or invariable; the variable quantities may be expressed by the addition or subtraction of k to n from the unknown quantity. Thus if x is the unknown quantity in a term, and it increases, $a+k$ is its new state; and if it decreases, $x-k$ is its new state. By substituting $x+k$, or $x-k$, for x in the

given term, we have a new ſeries of functions, and the differential art, or, as we term it, the doctrine of fluxions, conſiſts in deſcending from the generating function to the derived functions; the integral art, or, as we term it, the doctrine of fluents, conſiſts in aſcending from the derived functions to the generating function. Here, if we ſet aſide our new application of functions, we ſee at once that if x increaſes to $x+k$, and x^n conſequently to $\overline{x+k}\rvert^n$, the increment of x^n is

$$n x^{n-1} k + n . \frac{n-1}{2} x^{n-2} k^2 + n . \frac{n-1}{2} . \frac{n-2}{3} x^{n-3} k^3 +,$$

in which each of the terms may be derived the one from the other, or, according to our author, each function depends on its preceding function. But though we have been informed what the differential art is, we are far from knowing yet what the differential of fluxion of x^n is; and a young ſcholar, we ſhould think, would find it very difficult, at the end of the 97th page, to comprehend that 'to find the differential $df(x)$, he muſt write $x+dx$, inſtead of x, in $f(x)$, or the function of x develope $f(x+dx)$, or the function of $x+dx$, confining himſelf to the terms affected by the firſt power of dx, and ſubtracting $f(x)$, or the function of x from the reſult.' The obſcurity in this phraſeology ariſes from the writer's wiſh to generaliſe before he has ſufficiently explained particulars. We vulgar Engliſh ſhort-ſighted people are contented to ſhow a beginner how the fluxion of x^2 is obtained from that of x; how the fluxion of x^3 from that of x, and ſo on by degrees, till we ſhow him how the fluxion of x^2 is obtained, and in the ſame manner the fluxion of xy, or $\frac{x}{y}$, and all this knowledge is in our books, in general, contained in the firſt eight pages. But our author deſpiſes this method, and ſo plunges his readers at once into ſeries, fine looking ſeries, with Greek letters,

$$\alpha A x^{\alpha-1} dx + \beta B x^{\beta-1} dx + \gamma C x^{\gamma-1} dx +, \text{\&c.}$$

that we ſhall really admire the genius of the young French if they can comprehend the magnificence of this new ſcience. Before we had finiſhed the 192d page, we could find the differentials, or fluxions of different orders; and by means of the inſtances given, taken not only from ſimple algebraical terms, but from ſines, tangents, and logarithms, comprehend that from functions we could find fluxions. And now the differential doctrine preſents itſelf under a new point of view; for we may henceforward look on it as having for its object 'the inquiry into the limits of the relations which the increments of variable quantities have with each other, when the relations of the quantities themſelves are known.' Here we were happy to arrive at a ſimple plain truth, which is the foun-

dation of the doctrine of differentials or fluxions, and to which the conſideration of the algebraical term $x^2 + 2x\dot{x} + \dot{x}^2$, leads us with great eaſe, without this tedious parade of functions, or the unneceſſary hypotheſis of motion, introduced into a plain queſtion of addition or ſubtraction.

The ſecond chapter explains the uſes of the differential art, and the firſt ſtep is to expand a multinomial, ~~and~~ $(\alpha + \beta x + \gamma x^2 + \delta x^3 \ldots \ldots)^n$ is made equal to $A + Bx + Cx^2 + Dx^3 + Ex^4$. By taking the fluxions of the logarithms of theſe quantities, and dividing both ſides by the fluxion of x, we are enabled, it is well known, to determine the coefficients A, B, C, D. Yet to us it appears a very prepoſterous method to teach the uſe of an art, by plunging thus at once into very difficult operations; and the next inſtance will not familiariſe the ſubject to the learner, as it is to find the value of an arc in terms of its ſeries, by ſeries equally complicated. From theſe inſtances we are carried to generaliſations ſtill more complicated, and it was with the utmoſt difficulty that we could keep our attention ſufficiently fixed to go through page after page of functions with little or no utility; and we anxiouſly looked for ſome inſtance in practice, on which we could with more eaſe diſcover the writer's meaning. But this did not eaſily preſent itſelf, and we began to ſee day only when the author inveſtigated the queſtion of the numerator and denominator of a fraction vaniſhing at the ſame time. Here the method correſponded with that in common uſe, the diviſion of the fluxion of the numerator by that of the denominator; but the concluſions drawn ought not to be admitted without heſitation by the mathematician. 'Every function appearing under the form of $\frac{0}{0}$, when a determinate value is aſſigned to the variable quantity on which it depends, has always a determinate value, whether it is nothing finite or infinite.' This is the general poſition, which is, however, contradicted in the next paragraph, where it is proved that quantities expreſſed by $\frac{0}{0}$ are really indeterminate, as in the example $ax + by + c = 0$, and $\dot{a}x + \dot{b}y + \dot{c} = 0$, in which x being equal to $\frac{b\dot{c} - \dot{b}i}{a\dot{b} - \dot{a}b}$, and y to $\frac{\dot{a}c - a\dot{c}}{a\dot{b} - \dot{a}b}$, theſe values become $\frac{0}{0}$ by making $\dot{a}$ equal to am, and $\dot{b}$ to bm, and $\dot{c}$ to cm, when the queſtion would be really indeterminate, ſince the ſecond equation $max + bmy + cm = 0$, expreſſes no more than the firſt. In this difficulty among mathematicians, which is not ſolved in

this work, we shall observe only, that when a function appears by assigning a peculiar value to the variable quantity under the form $\frac{0}{0}$, the function in that instance ceases to exist, and the supposition that the function can have a determinate value arose merely from inattention to the function in this supposed determinate state. For example, $\frac{a x - x^2}{a x^2 - x^3}$ appears in the form $\frac{0}{0}$, when x is equal to a; consequently, to use our author's language, the function of x has in this case a determinate value, which is $\frac{a\dot{x} - 2x\dot{x}}{2axx - 3x^2\dot{x}}$, or $\frac{a - 2x}{2ax - 3x^2}$, which, when x is equal to a, becomes $\frac{1}{a}$; that is, the function of x has the determinate value of $\frac{1}{a}$, when x is equal to a. Common sense recoils at this determination, when it puts the algebraical terms into numbers, and making a equal to ten feet, and supposing x equal to it, the fraction appears to be $\frac{100 - 100}{1000 - 1000}$, or nothing at all; and on examining the fraction we see that it really is equal to $\frac{x \times a - x}{x^2 \times a - x}$, or $\frac{x}{x^2}$, or $\frac{1}{a}$, since $a - x$, divided by $a - x$, gives unity. But this supposed quotient cannot be true, when $a - x$ ceases to be a number, and in that case the fraction is $\frac{1}{a} \times \frac{0}{0}$, or nothing at all, as it evidently ought to be. The fact shows itself at once to the person who would draw the curve corresponding to the equation $y = \frac{a x - x^2}{a x^2 - x^3}$, in which it is evident that all the ordinates will be greater than $\frac{1}{a}$; but as when x ceases to exist, no corresponding ordinate can be drawn to the curve, so no ordinate can be drawn when x becomes equal to a, and annihilates the relationship between y and x. The length of y extends without limit; as the abscissa is decreased, it diminishes as x increases, and its limit of decrease is $\frac{1}{a}$.

The chapter concludes with the use of the differential method in discovering maxima and minima, in which we approve highly the mode of determining these questions. 'The

essential character of the maximum consists in this, that the values which immediately precede or follow it are less than the intermediate value, and in the minimum are greater.' To find, therefore, either state, the function is to be considered, when $x+k$ and $x-k$ make it decrease; or $x+k$ and $x-k$ make it increase, k being necessarily a very small number, as otherwise $x+k$, or $x-k$, may carry the function beyond the limits of several maxima and minima. Hence it appears that when $x+k$, or $x-k$, in the function, both decrease it, the differential, or first fluxion of the function, disappears.

The third chapter is a digression on algebraical equations, in which the vulgar hypothesis is adopted, and it is said that 'it is well known that every algebraical equation of any degree whatsoever, containing a single unknown number, is the product of as many binomials of the form $x-\alpha$, $x-\beta$, $x-\gamma$, as there are units in the highest index of x in the equation.' It is well known that such an hypothesis has been formed; but it should be recollected that it is rejected by the most eminent algebraist on this side of the water, who looks upon it as a fiction, hurtful to the progress of science; and, in fact, since the hypothesis is true in only particular cases, the reasoning deduced from it to other cases, where it is not true, cannot tend to any useful purpose, and must lead to sophistry. Thus it is true in an equation of the form $ax-bx^2+cx^3-x^4=d$, but it is false in equations of the form $ax+bx^2+cx^3-x^4=d$; and, as the whole reasoning in this chapter depends upon this hypothesis, it should be considered not as referring to equations, but to the properties of a multinomial, the product of $\overline{x-\alpha}\times\overline{x-\beta}\times\overline{x-\gamma}\times\overline{x-\delta}$, &c. In this view the relations of the sum of α, β, γ, δ, the square of that sum, the cube of that sum, &c. to each other, are demonstrated easily by taking the logarithms of $\overline{x-\alpha}\times\overline{x-\beta}\times\overline{x-\gamma}$, and of its equal, the multinomial $x^n-ax^{n-1}+bx^{n-2}-cx^{n-3}+dx^{n-4}$, and then the fluxions of each side. By expanding then the division of $\frac{1}{x-\alpha}$, $\frac{1}{x-\beta}$, $\frac{1}{x-\gamma}$, &c. the relation is easily discovered. This question has occupied many mathematicians, but it is difficult to point out any useful purpose to which so much labour is applied, as occurs in the next investigation in this chapter, resulting from the hypothesis adopted, and leading to a number of expressions, in which $\sqrt[n]{-1}$ appears, and which ought to be expunged from every work pretending to mathematical demonstration. We are quite satisfied with the result, from an examination of several quantities, 'that all functions, algebraical, logarithmical, exponential, or circular, which are imaginary, may be brought to

the form $A \pm B\sqrt{-1}$;' for the same wandering of the imagination which could embrace a shadow for a reality, may find any relation it pleases between the various shadows it has engendered.

(To be continued.)

Annales de Chymie. Vols. XXVIII. XXIX. et XXX.

Annals of Chemistry. (Continued from Vol. XXVIII. New Arr. p. 491.)

THE XXVIIIth volume of these annals commences with the year 1799, the seventh year of the Republic, and the first article is a continuation of 'Mr. Hassenfratz' Memoir on Areometry.' The meaning of the term, and the author's objects, we have already noticed. In this continuation of his first memoir, he gives a history of the experiments on the subject, and the result of the experiments of Newton, Muschenbroek, and Kirwan. With respect to the specific gravity of substances soluble in water, he agrees very nearly with the results of the experiments of the two former; but his conclusions differ widely from those of Mr. Kirwan, when these two only have examined any substance. The specific gravity of pure pot-ash, for instance, is by M. Hassenfratz stated at 1.7, by Mr. Kirwan at 4.62. Our present author weighed his alkali in mercury; Mr. Kirwan weighed it in oil of turpentine; and we could wish the experiment to be repeated in each manner by other philosophers.

'M. Guyton's Report of the Results of M. Clouet's Experiments on the Method of converting Iron into Cast Steel,' follows. We had once occasion to notice, that, notwithstanding all the pretensions of the French chemists, they have been unable hitherto to rival the English, in their steel manufactory; particularly in the instruments made with cast steel. This they now admit; but think that M. Clouet has succeeded. The history of the different attempts is followed by M. Clouet's processes. The principle is, that steel, when raised to a high temperature, about 150° of Wedgwood's thermometer, has such an affinity to carbone as to take it from oxygen, and to decompose carbonic acid. The steel is melted with carbonate of lime and argil; but the iron is unreasonably wasted in this process, by the oxygen of the acid; and the author seems not yet to have attained a correct knowledge of the art.

M. Vauquelin communicates two methods of analysing brass; and has premised some reflections on the precipitation of me-

tals by each other, from their solutions. The first method is, by precipitating the metal by pot-ash, which dissolves the zinc, while the copper remains on the filter. The other method is, to dissolve the brass in sulphuric acid, to dilute the solution, and then immerse a plate of clean zinc into the fluid, in consequence of which the copper will precipitate.

Van Mons has translated 'Brugnatelli's Observations on the Nature of the Calculus Vesicæ.' These, however, leave this obscure subject in still greater obscurity. Our author contends, that the soluble part of urinary calculi is the acidulated phosphat of lime; Scheele, and others, call this the lithic acid, and assert that these calculi contain no lime. The insoluble part contains, according to this author, a large proportion of the radical oxalic; and a large proportion of the calculous matter, soluble in nitric acid, is transformed into oxalic acid.

An abstract of the third volume of the chemical part of the Encyclopédie Methodique is incapable of abridgment; and the abstract of the seventh and eighth numbers of Crell's Annals for 1797 will furnish us only with some detached remarks of no small importance. M. Abech would refer the honey-stone to the alumines, and take it from the class of combustibles, since it is not inflammable; but other authors have not found any argil in it, as naphtha will perhaps give the peculiar odour to fossils of a very different nature. In fact, it consists chiefly of carbone, oxygen, and naphtha. M. Muschin Paschin finds platina, allayed with four parts of copper, fusible and malleable. Platina whitens copper more effectually than silver. The same author crystallises gold and silver, by inflaming phosphorus, dissolved in oil of turpentine, previously mixed with their calces. The oily solution of phosphorus precipitates mercury and silver in a black oily mass, giving a foundation for the expectation of procuring a metallic phosphure. M. Crell informs us, that there are mines of silver, iron, and copper, at the southern extremity of Africa; but they have not yet been worked. The communication, relating to the method of securing iron from the effects of air and water, relates only to the iron employed for covering houses. The author thinks, that a coating of pitch, coated with tin foil, would be alone effectual.

'M. Tassaert's Analysis of the Cobalt of Tunaberg, with the different Methods of obtaining the Metal in a State of Purity, and an Examination of its most remarkable Properties,' we cannot abridge. It is sufficient to observe, that the author agrees with M. Klaproth, in thinking, that cobalt so pure, as, with the nicest tests, to discover no admixture of iron, is still magnetic.

M. Chaptal, in a very elaborate memoir, has investigated the difference between the acetous and the acetic acids. The

latter has been uſually ſuppoſed to be the oxygenated acid; but our author found the difference owing to its poſſeſſing a ſmaller proportion of carbone. The acid, when combined with metals, is the acetous, and it becomes acetic by loſing ſome of its carbone; and though, in general, the proportion of oxygen varies the quality of acids, yet this has no influence on the acid of vinegar.

'M. Humboldt's Experiments on Nitrous Gas, and its Combinations with Oxygen,' follow. It is difficult to give an adequate idea of this long and elaborate memoir. One object is, to aſcertain the quantity of nitrous gas which will ſaturate one part of oxygen: this differs greatly from 1.8 as has been ſuppoſed. He finds that the ſulphat of iron abſorbs, wholly, the gas, leaving the azote; and, though the oxygenated muriatic acid leaves a larger proportion of azote, this ariſes from what was combined with the hydrogen of the water to form the ammoniac. The general proportion of azote is, from .10 to .68; but, for chemical experiments, the beſt proportion is about .15. In mixing nitrous gas with oxygen, only ſo much acid is formed as there is water to abſorb it; ſo that the ſize of the veſſels, in which the mixture is made, influences the quantity abſorbed. The reſt remains in a gaſſeous ſtate; and in ſhaking nitrous gas with diſtilled water, nitrate of ammoniac is formed, by the decompoſition of the water in conſequence of a double affinity. A mixture of .27 of oxygen, and .73 of azote, differs from atmoſpheric air, in this, that the azote of the latter, by a chemical attraction, hinders the oxygen from combining ſo freely with nitrous gas as it ſeems to do in vital air; but, by means of ſulphat of iron, what remains, after mixing nitrous and atmoſpheric airs, will ſhow very exactly the quantity of vital air contained in any given quantity of the air that has been tried. In this way, aſſiſted by the effects of the muriatic acid air, the difference between two airs, though conſiſting only of .003 part of oxygen, may be diſcovered.

As this advance in endiometry was made by diſcovering the ſolubility of the ſulphat of iron in nitrous gas (a fact diſcovered by Prieſtley, though applied by Humboldt to the preſent purpoſe), in the following memoir, he examines, with M. Vauquelin, the chemical changes that take place ſubſequent to the ſolution. In the receiver, from the double affinities, they found nitrate of iron, ſulphat of ammoniac, ſome ſulphat of iron, not decompoſed, with a proportion of water.

'M. Chevenix' Analyſis of ſome Magneſian Stones' is very important, ſince their accurate analyſis has not yet completely ſucceeded. His agents are, the malic acid, ſulphurated hydrogenous gas, and the Pruſſian acid. The reaſons for employing theſe depend on their action on magneſia, and their peculiar

relation to the other component parts of magneſian ſtones, which cannot be abridged. The firſt analyſis is that of tremolite, which conſiſts chiefly of carbonic acid, flint, and lime, containing only .18 of magneſia. The next is of ſurpentine, whoſe moſt copious ingredient is magneſia; the third is of white ſteatite, containing 60 of flint, and 28 of magneſia. Talc and mica conſiſt almoſt wholly of flint and alumine; amianthus and aſbeſtus of flint and magneſia. On the whole, theſe analyſes ſeem to be conducted with great ſkill and ability.

The abſtract of M. Prouſt's memoir, entitled 'Reſearches on Tin,' are confeſſedly a ſupplement to M. Pelletier's inveſtigations, and relate to the different degrees of oxydation this metal admits of. An account of a peculiar viſcous ſubſtance, found on a ſpecies of robinia, from thence called viſcoſa, follows. It is very glutinous, without ſmell or taſte, approaching in its nature to reſins, though ſcarcely ſoluble in alcohol. Its peculiar menſtruum is æther. It unites with oils, but not with alkalies, and does not dry in the air. It burns freely, leaving a very bulky cinder.

M. Fourcroy's very elaborate memoir on 'The Application of Pneumatic Chemiſtry to the Art of Healing, and the Medicinal Properties of oxygenated Subſtances,' is extremely intereſting, though it will ſcarcely admit of an abſtract. The action of oxygenated ſubſtances is that of an acrid ſtimulant; in reality it diſſolves animal matter, imparting its oxygen, while the ſubſtance applied is deoxygenated. It is neceſſary, however, that the attraction of the component parts to the oxygen be not greater than that of the animal matter to which the ſubſtance is applied, as the action would be thus prevented. Therefore, in many inſtances, the union of even oxydated ſubſtances, whoſe attraction to oxygen is great, renders a medicine mild, or enables it to become an antidote. Thus bark diminiſhes the action of antimonial oxyds, &c. The whole of this memoir deſerves attention, particularly where the detached facts, diſcovered many years ſince, contribute to elucidate and confirm later diſcoveries. M. Fourcroy, from theſe, predicts a revolution both in phyſiology and pathology.

The concluſion of M. Haſſenfratz' third memoir on Areometry relates to the ſalino-grades, and contains many valuable facts, reduced to tables, which we cannot abridge.

'The Report, made to the Royal Commercial Company at Madrid, of ſome new Productions lately diſcovered in Spain,' is chiefly of local importance. In the province of Eſtremadura, is a gold mine; and it will occur to the reader, that, in early æras, Spain was the country of gold, the Peru of the old world.

'M. Prieur's Letter on the Morning and Evening Dew,' contains an ingenious explanation of theſe phænomena, on

the principles of M. Monge, or rather of Le Roy and Hamilton; viz. the ſolution of water in its precipitation from air; but, in reviewing M. Monge's paper, in the Vth volume of the Annals, we ſhowed that ſome additional principle was neceſſary, which we have often had occaſion to mention.

In the concluſion of this volume, M. Scherer, among other miſcellaneous information from England, deſcribes the ſubſtances from which Mr. Wedgwood's beautiful colours on pottery are prepared.

The firſt article of the XXIXth volume offers a curious ſubject of inquiry; but, unfortunately, not purſued ſatisfactorily to its concluſion. It is entitled, 'Experiments on the Excrements of Fowls, compared with their Food, and Reflexions on the Formation of Egg-ſhells.' The quantity of carbonate of lime, formed in the conſtitution of the hen, during the time of laying her eggs, is very conſiderable, and ſeems to be depoſited by the urine, or at leaſt ſeparated by the veſſels of the kidneys. The urine of all herbivorous animals contains carbonate of lime, without any calcareous phoſphat, which is diſcharged with the feculent matter ſo contained, in a very ſmall proportion, in the food. It is ſingular, that grain furniſhes only from its aſhes phoſphat of lime, though the ſtalks, &c. afford, almoſt excluſively, carbonate of lime. In the excrements of both the cock and the hen there are both carbonate and phoſphat of lime; and it is curious, that the excrements of the hen, even when there is ſuch a drain of the lime from the continual production of eggs, contain a larger proportion of lime than thoſe of the cock; but it ought to be remembered, that, at this time, the female requires two or three times as much nouriſhment as the male; and the carbonate of lime may, we know, be exhauſted, as well as depoſited in the inteſtine of the male, forming what is called the cock's egg; which, though not uncommon, M. Vauquelin never ſaw. A ſimilar production is the barren egg, in the female, which contains the white only. The white matter diſcharged by fowls is not cretaceous, as has been ſuppoſed, but albuminous.

On examining, chemically, oats, which forms the food of hens, they were found to yield phoſphat of lime and flint, ſo that the formation of lime was the effect of the aſſimilation in the body of the hen; but from what principles it is derived cannot yet be aſcertained. The quantity of lime in the oats, even ſuppoſing the flint changed into lime, will not furniſh the quantity required for the production of the eggs. We have ſuſpected, that the ſtones taken up by fowls with their food may ſupply the lime; but theſe animals prefer flint, though they take up, indiſcriminately, every ſtone; nor have we any reaſon

to think the animal œconomy can change flint into lime. M. V.uquelin's hen should have had flint stones only.

M. Fourcroy, in a long memoir, has analysed the works of Mayow, and attempted to appreciate his real merit. He admits his great judgement and sagacity, but very properly opposes the too zealous claims of his editor and followers to the honour of having anticipated Priestley and Lavoisier.

Brugnatelli's XIVth volume of the Annali di Chemica will, as usual, furnish us with a few facts of importance, which we shall select. M. Volta's second and third letters on galvanism are designed to show, that the galvanic plates act as doublers of electricity, and this fluid becomes perceptible, in our author's method, to an electrometer of exquisite sensibility. Within these few months, however, we believe the same author has succeeded in giving a very sensible shock by a galvanic battery, which, at this moment, furnishes the subject of much curious disquisition. It consists of circular plates of silver and zinc, placed alternately, with moistened cords, of the same diameter, interposed between the metals. About forty of each are usually employed, and it is only necessary for some person to form a communication between each extremity of the pile, to experience a severe and painful shock. M. Carradori shows, that oxygen is not the cause of the congelation of the white of an egg, when heated; and proves, that in this operation no oxygen is communicated externally, or derived from a decomposition of the albumen. Indeed, to boil an egg in its shell is a sufficient proof; but we think he has not fairly succeeded in the proof of no oxygen being derived from the albumen, though he has rendered it highly probable. We believe all coagulation is not attributed to oxygen, though this is incautiously asserted by Fourcroy. Van Mons thinks that, in hospitals, it may be sometimes necessary to reduce the quality of the air, as too much oxygen might injure patients in inflammatory disorders. Carbonic acid air would be the most copious gas, in the chambers of the sick, if it was not fixed by the ammoniacal air; so that arresting it, by vessels of lime-water, only gives occasion to a superabundance of the latter, which is much more injurious. In health, he thinks, we form more water; in disease, more carbonic acid. He prefers, what we have formerly recommended, the steam of water, to every other method of destroying noxious gas; and, to reduce the quality of airs, he advises occasionally the addition of carbonic acid air, and hydrogen; the first passed through water, and the second through oil; to precipitate, in the first case, the acid employed to separate the fixed air, and, in the second, the carbone. M. Fabbroni recommends half filling a phial with .25 of minium, and .75 of muriatic acid, to

produce an oxygenated acid for cleaning engravings. And M. Aldini remarks, that fluid, as well as solid bodies, obey the usual laws of attraction and repulsion, in consequence of being electrified.

The lepidolite found in Sudermania, in Sweden, is described by M. Beyer. Its analysis we have formerly noticed, and the description we cannot abridge.

A most interesting memoir is communicated by M. Humboldt, 'On the Absorption of Oxygen by simple Earths, and its Influence on the Cultivation of the Ground.' It appears, that vegetable mould, when moistened, will decompose the atmosphere, and leave its azote almost wholly pure. To this the fertility obtained by fallowing is, with some justice, attributed by our author, as well as the mephitic vapours which so frequently and copiously issue from caverns when moist. This azote is mixed with some carbonic acid air; but is in other respects unaltered. Alumine and dry calcareous earth do not change the purity of the air; but alumine, barytes, and lime, when moistened, absorb all the oxygen, without the separation of any other elastic fluid. These considerations would lead to very extensive speculations, which we cannot indulge in this place. M. Humboldt considers some of these, in which we need not, at present, follow him. It is necessary however to remark, that vegetable mould differs greatly in its chemical analysis; nor is its fertility always connected with the nature or the proportion of acidifiable bases discovered in it; but more frequently with their state of composition, and the facility with which they unite with oxygen, to form carbonic acid, which we long since observed was the fertilising principle, though derived from a variety of substances. One other observation we may add. Lumbrici and the larvæ of various insects live in the interstices of the ground, where the air is of an inferior quality. We have formerly observed, that these animals do not breathe impure air, but that they carefully extract all the oxygen from this injured air; and, when brought into pure air, really die from its excess of stimulus. This deposition of azote, by the decomposition of the air, explains, in our author's opinion, the formation of nitre; but, in all these processes, the action of light has a considerable share, as M. Humboldt admits, and its influence has not yet been taken into the account. We may also remark, that, from these facts, we can in some degree account for the insalubrity of the air in the neighbourhood of marshes, and they may lead to a discovery of the nature of miasmata.

An abstract of Guyton's memoir, 'On the Acid of Amber,' follows. The best way of purifying the acid is to cohobate it repeatedly with nitrous acid, at a low heat, since it is easily decomposed. In decomposing, however, its elements, as

Scheele has alleged, form acetous acid, ſo that it is probably of vegetable origin.

From the account of the XVth volume of Brugnatelli's Annali di Chimica, we ſhall, as uſual, ſelect ſome of the more important information. M. Carradori proves, that nocturnal animals of prey can eaſily live on vegetable ſubſtances, though averſe to them; and it is therefore not true, that their gaſtric fluids have an affinity only with animal matters. He ſhows too, that frogs, and other amphibia, as well as fiſh, require air; at leaſt they require that the water in which they live ſhould be occaſionally, or conſtantly, expoſed to the atmoſphere. Brugnatelli informs us, that the oxalic acid is not ſo certain a re-agent, in diſcovering lime, as has been ſuppoſed; and inſtances many mixtures, in which it will ſhow no traces of lime, though it exiſt. He found that aurum fulminans, with phoſphorus, would detonate by percuſſion alone, whether precipitated by pot-aſh or ſoda. The editor obſerves, that the fulmination depends on the azote, communicated by the alkalies; and he adviſes, that they ſhould be in a cauſtic ſtate, and added ſomewhat in exceſs. Mr. Smith ſuppoſes, that the fluid thrown out by the ſubcutaneous veſſels, when a living animal has been wounded, reſembles the gaſtric juice, and acts on vegetable and animal matters like the juices of the ſtomach. Thus pus is a kind of chyle, produced by a ſolution of dead animal matter in a ſimilar menſtruum. But this idea is only founded on its power of coagulating milk, and diſſolving animal ſubſtances, which, in M. Carradori's opinion, it poſſeſſes in common with various other fluids.

Some of the information contained in a letter from profeſſor Trommſdorf we may ſelect. One of his friends has found lime cryſtalliſed in fine needles, ſo that his opinion of its being an alkaline ſubſtance is confirmed; but the hardneſs of mortar could only ariſe from ſuch a cryſtalliſation. His former pupil, M. Juch, purifies phoſphorus, by moiſtening *powdered* phoſphorus with oxygenated muriatic acid, and re-caſting it in moulds. We have found phoſphorus become of a waxy whiteneſs by being kept in a dark place. He prepares a martial æther, by digeſting the latter, on a red oxyd of iron; and thinks the zoönic the ſame with the ſebacic acid.

The hiſtory of the Inſtitute at Cairo, and its communications, ſome of which we meet with in different parts of this work, have already been the ſubjects of our remarks, in the Engliſh tranſlation. The new experiments on the ſuppoſed converſion of water into azotic gas, by MM. Deiman, Paets, &c. are deſigned only to anſwer the doubts and objections of M. Wurzer, and are ſcarcely capable of analyſis.

M. Dumas has tranſlated Dr. Reid's Treatiſe on the Phthiſis Pulmonalis, and has added the hiſtory of two ſpecies of

phthiſis, diſtinct from each other; the one is the diſorder brought on by ſpaſmodic coughs, dry aſthma, &c. the other that owing to debility of the lungs. Theſe he has attempted to imitate, by confining dogs in vital and fixed airs. The dogs undoubtedly died with very different affections of the lungs: the firſt with every mark of inflammation, the other with proofs of the inefficacy of the fixed air to diſtend the lungs, but neither with the characteriſtic ſymptoms of phthiſis.

The abſtract of M. Chriſtian's work, 'On the Fabrication of Alum in the Department of Ourte,' we need not abridge. M. Vauquelin's obſervations on ſome of the properties of ſtrontian and barytes, deſerve notice. His object was to aſcertain how far their reſemblance to alkalies, obſerved by ſome chemiſts, was well founded. In his experiments, in relation to flint and alumine, they acted nearly as alkalies, by uniting with, and dividing them, ſo as to render them ſoluble even in the weakeſt acids. They were equally uſeful in the analyſis of hard ſtones, which acids will not touch. So powerful is this action, that, in decompoſing nitrats of barytes and ſtrontian, in earthen crucibles, it is neceſſary to guard againſt too great purity in the earths, and too great activity in the fire, leſt the materials of the crucibles ſhould be diſſolved. The ſolution of the crucible occaſioned the barytes to come out in an inſoluble *frit*, and formerly led to the addition of charcoal, to prevent this appearance. Theſe earths ſhould therefore, in this author's and M. Fourcroy's opinion, be claſſed with the alkaline ſubſtances.

MM. Vauquelin and Fourcroy have communicated their Experiments on Artificial Cold, of 40° below 0 of Reaumur's thermometer. Lowitz' Experiments in the XXIId volume of the Annals, formerly noticed, ſerved for the baſis of our authors' reſearches. Theſe are now confirmed, and ſome additional phœnomena were obſerved. Mercury may be frozen in any quantity, if, like the Ruſſian chemiſt, we throw it into the mixture; but when congealed in a veſſel, it cryſtalliſes readily, forming octaedral cryſtals. Ammoniac, ſlowly cooled, cryſtalliſes; if cooled rapidly, it reſembles glue, and loſes its ſmell. Æther freezes and cryſtalliſes regularly at 35° below 0, but alcohol is ſcarcely fixed at that degree; ſo that æther is of a different nature, and cannot be employed as a meaſure of extreme cold. MM. Van Mons and Guyton have added ſome important facts to the hiſtory of cold. They were enabled to freeze every fluid, and after being expoſed to exceſſive cold, gold, ſilver, tin, and lead, loſt their malleability, and became brittle; a pen broke like glaſs.

M. Weller deſcribes ſome particular ſubſtances found in animal matter, treated by nitrous acid. The chief ſubſtance diſcovered, was a yellow bitter ſalt, ſoluble in water

and alcohol, cryſtalliſing in octoëdra, whoſe two oppoſite points are truncated. This ſalt was found in ſilk, and exploded like gunpowder; it was found too in animal matter of a different kind, and is ſtyled, by our author, *amer*, from its bitterneſs; he thinks it an ingredient in bile; but, if we miſtake not, Mr. Higgins of Dublin diſcovered a ſimilar ſubſtance in the blood, many years ſince.

M. Girtanner formerly ſuppoſed that he had diſcovered the radical of the muriatic acid, which, in his opinion, conſiſted in hydrogen and oxygen; M. Teſſaert examines his experiments, and thinks them not only inaccurate, but inconcluſive. M. Girtanner is lately dead.

M. Guyton's new experiments on the fuſibility of mixed earths, in conſequence of their mutual actions, contain only ſome miſcellaneous facts, incapable of abridgement. M. Brugnatelli, in a miſcellaneous letter, mentions his having procured a yellow reſin from indigo, of which the indigo yields near half its weight.

The XXXth volume of this collection begins with the continuation of the extracts from Crell's Annals, which furniſh nothing of importance to detain us. The abſtract of a memoir by M. Hauffman, entitled 'Eſſays on Dyeing by Solutions of Tin, and the coloured Oxyds of this Metal', is highly curious, but, from the miſcellaneous nature of the facts, incapable of any further abridgement.

M. Mayer's memoir, 'on the different Capacities of Woods to conduct Heat, from which their ſpecific Heat may be deduced,' is very elaborate and uſeful. We ſhall add the following compariſon of the ſpecific heats, drawn from their conducting power, and from direct experiment. The other tables are too extenſive for our limits.

Specific heat deduced from the conducting power.		By direct experiment.	Difference.
Fir,	0.53	0.60	0.07
Linden-tree,	0.62	0.67	0.05
Elm,	0.47	0.45	0.02
Pear-tree,	0.50	0.50	0.00

The correſpondence between MM. Fourcroy and Vauquelin, and M. Giobert, relates to the calculi veſicæ, vaſt numbers of which have been ſent by the latter to aſſiſt the French chemiſts in their very extenſive reſearches on this ſubject. Some parts of M. Fourcroy's letter we ſhall tranſlate.

'It is neceſſary to divide the calculi to compare the ſtrata. I have long ſince learnt, that the exterior of a calculus gives no information reſpecting its internal coats, unleſs this coat is compoſed wholly of uric acid, and is of the colour of

woad; in which case its nature is uniform, and the nucleus of the mulberry kind. In 300 kinds of calculi hitherto known to us, the phosphats are never covered with uric acid, though they cover this acid as well as the mulberry nucleus. We have never met with the phosphat of lime alone, but always with an ammoniaco-magnesian phosphat; nor with a pure magnesian phosphat, without ammonia. This triple salt is that which is almost always deposited on extraneous bodies, introduced into the bladder, often mixed with phosphat of lime **** Urat of ammonia is often found in the same circumstances as the uric acid; more rarely alone, and sometimes only in little polyangular calculi; it is frequently interposed between alternate strata of earthy phosphats or pure uric acid. Oxalate of lime is never detected in any considerable quantity between other calculous matters. It is constantly found in the centre of earthy phosphats, strata of uric acid, or alone, forming the unequal mammelated calculi, styled the mori (mulberry) form.' *** We have examined only one gouty calculus, and it contained urat of soda instead of phosphat of lime, its supposed base.

M. Vauquelin's memoir on 'the Method of analysing Stones,' is an excellent one, and he has given examples of his method in the analysis of different fossils; but this memoir cannot be abridged.

M. Guyton adds the analysis of a quartz, presenting a crystallisation of metastatic spar, commonly called *dent de cochon* (hog's tooth). In this instance, the nature of the stone is not ascertained, as usual, by the form of the crystals. These show it to be a calcareous spar, but it is in reality a quartz, and the variety seems, in our author's opinion, owing to its having crystallised in a mould of some other substance in this form.

Various questions, relative to the names and qualities of grapes, and the management of vines, proposed by M. Chaptal, are replied to in this and the following number; but these are subjects of local importance only.

The mercurial syrup of belet is differently prepared, and not always with skill; the mercury, in this syrup, is united with the nitrous acid, but sometimes corrosive sublimate is employed. Our author proposes to add to 489.146 grammes of syrup; 5.413 of nitrat of mercury; and 1.910 of nitric æther. Whatever be the value of the gramme, the proportion will remain the same.

The acid of vetches is analysed by M. Dispan, who styles it the ciceric acid, and thinks it different from the oxalic; yet even, from his own experiments, it approaches very nearly the oxalic acid.

M. Guyton has communicated some very valuable 'Researches,

on the colouring Matter of Vegetable Juices, the Changes produced by Tin, and other Metallic Substances, with a new Method of forming Lacs more intensely and solidly coloured than usual.' He thinks that the red colour of fruits is owing to the re-action of their own acid on their colouring matter; and that tin, lead, bismuth, antimony, zinc, and iron, in reviving or restoring the colour of violets, only take up the acid which gave the red hue. The effect is most rapid and complete with iron. He finds that the acid, which produces the redness, does not proceed from what is contained in the green part of the fruit, but is involved in the colouring matter itself; and though sometimes so modified, as to resist the most active re-agents, may be reduced to a state in which it will be affected by them; so that it is essentially the same. The metallic oxyds are not all equally adapted to raise and fix the colour, for some which act quickly on substances of this kind, retain it but feebly: the oxyd of tungsten particularly forms lacs of a permanent colour for painters, where they are not exposed to any alkaline substance; and as a dye for silk, if soap be not applied to it.

Van Mons' extracts from De Kasteleyn, contain various articles of value, of which we can only select the most interesting and important. The Brunswick green, M. Kasteleyn informs us, is prepared by moistening sheets of copper, with muriat of ammonia, in close vessels. The metal separates the acid, and dissolves in it, and is again precipitated by the ammonia. The precipitate is washed and dried; the remaining liquor, with that employed in the first washing, by again saturating it with sal ammoniac, may be used a second time. M. Kasteleyn also observed, that, in a solution of muriat of potash and carbonat of soda, either salt may be made to crystallise by a difference of temperature: below 15° of Reaumur, the muriat crystallises; above it the carbonat. Van Mons has observed, that these two salts, at different temperatures, change their bases: pale martial flowers of sal ammoniac became of a deep orange by exposure to solar light. Van Mons proposes to make an antimonial Ethiops by precipitating an alkaline hydro-sulphur of antimony by nitrat of mercury. The first is made by boiling 12 parts of crude antimony, 6 parts of caustic pot-ash, with 3 of sulphur; but, as the preparation is useless, we need not enlarge on it, except as a chemical fact. Van Mons adds various other proofs to those formerly alleged, that the sulphuric acid is never oxygenated; when it appears to be so, the seemingly superabundant oxygen is furnished by a decomposition of the acid. He proposes to prepare a cheap bleaching liquor, by digesting three parts of muriatic acid with one part of oxyd of manganese, and precipitating the metal that is dissolved by soda. Van Mons recommends a new method of purifying gum re-

sins, by triturating them with water, so as to form a milk, and adding a little gum of the cherry-tree, to combine with any excess of resin; if with cotton, there is any mixture of wool, it may be discovered by the oxygenated muriatic acid, which whitens the cotton, and gives a yellow hue to wool. In this way, professor Brugman distinguishes medullary substance from that of nerves. It is a curious fact, that two liquids, instantly on mixing, become solid. These are concentrated sulphuric acid, and a strong solution of muriat of lime.

M. Monge has published his lectures on descriptive geometry, which depend much on the plates; nor can we appreciate their nature or utility from the account before us.

M. Fabbroni, in his letter to Van Mons, describes a new method of preparing martial Ethiops; alcohol he thinks is not formally contained in spirit of wine; for his experiments, which discover $\frac{1}{100}$th of spirit added to wine, show no appearance of alcohol unless it be added. Another paradox is subjoined, that fermentation may be made to take place in the Torricellian vacuum. This author has published 'L'Arte di far il Vino' at Florence in 1788, in which these and some other curious facts are contained.

M. Ventenat's view of the vegetable kingdom, after the system of Jussieu, is a botanical work of some importance; but its analysis is not properly a part of the present subject: we may probably return to it. M. Bartholdi's analysis of the bark of the white willow is a very uninteresting account of an useless substance; and M. Lomet's description of the preparation of crayons from a red iron ore is equally trifling; many artists make their own crayons more successfully.

M. Portal, in his new communication respecting Belet's mercurial syrup, admits the substitution of corrosive sublimate for nitrat of mercury, and recommends it, joined with antiscorbutic juices in rickets, scrofula, and scrofulous phthisis.

M. Scherer's account of the preparation of sugar from the beta cicla (not 'vulgaris' as he asserts), offers nothing new.

M. Vauquelin's 'Essayer's Manuel's is next analysed, and it appears to be a work of considerable value, but incapable of farther abridgement; and the volume concludes with a description of some additions to Teyler's new machine, which we shall examine in a separate article.

Description de quelques Appareils Nouveaux, ou Perfectionnés de la Fondation Teylerienne; et des Experiences faites avec ces Appareils. Par M. Van Marum. 4to.

Description of some new or improved Machines of the Teylerian Foundation; and of the Experiments made with them.

THIS volume has been long before us, but we have delayed an account of it, despairing, from the want of plates,

with which it is copiously furnished, to convey any idea of the machines. The same difficulty we still feel; but shall no longer hesitate, as the experiments, at least, are of importance, and we shall endeavour to give the best idea, in our power, of the apparatus with which they are made.

The legacy, left by Teyler, for increasing natural knowledge, has been placed in judicious hands, and it has occasioned the accumulation of greater electrical powers than were ever before collected by human art. We have noticed the progressive steps of Van Marum and his associates, in these attempts, with great anxiety, which has made us more anxious to neglect no longer filling up the chasm. The delay was not however wholly our own; for, though the date of the publication is 1798, much of it was done in 1794.

Onr author's chief object was to repeat, on a large scale, but with sufficient precision and convenience, the brilliant experiments of Lavoisier, the foundation of the pneumatic doctrines of modern chemistry; doctrines now well established, but which will receive no little support from the known integrity and accuracy of Van Marum. The present work is not however a systematic one. It is comprised in eleven chapters, some of which have been already published, as it was necessary, by the statutes, that they should be inserted in the Teylerian Memoirs. The two first chapters contain a description of his gasometer, already published; and, as it is difficult to procure large receivers so large as those of his former gasometers, the third chapter contains an account of the modification of these instruments, so as to adapt them to receivers of a less size. These subjects need not detain us.

The fourth chapter contains "an Account of an Apparatus for the Formation of Phosphoric Acid, by the Combustion of Phosphorus." As our author could not accurately close the glass balloon described by Lavoisier, he constructed one like that employed in Lavoisier's process of the composition of water. All intercourse with the external air was shut out, and the oxygenous gas deprived of its water, by passing over an alkaline salt, previously raised to a red heat for an hour. In these experiments, Van Marum usually burnt 60 grains of phosphorus; and, in calculating in the manner pointed out by Lavoisier, the quantity produced, he found it to be very nearly the sum of the weights of the phosphorus and the gas employed. The author here describes a singular experiment, by which he obtained a spontaneous inflammation of phosphorus, under a pneumatic receiver, wholly exhausted, without the access of any heat. This we noticed in a review of one of the early volumes of the Annales de Chymie, where it was inserted; and it is justly remarked by our author, that,

if the German chemists, who have opposed the new system, had attended to this experiment, they would have found in it a sufficient refutation of their arguments and experiments against the new system, drawn from the phosphorus appearing luminous in azotic gas.

The fifth chapter contains a description of the apparatus, designed to prove that the carbonic acid is really the result of the combustion of carbon with oxygen gas, and that the diminution of weight, in both, is equal to the phosphoric acid formed in the process. The apparatus is an improvement of that of Lavoisier, for the same purpose. The furnace, as to its principal part, is of plate copper, and of a conical form. At the bottom is a grate, which supports the coal, and the ashes are collected in a close cavity below. The combustion is excited by a red hot wire, introduced through a tube, made for two purposes, and is fed by oxygenous gas furnished by a gasometer. The carbonic acid, thus formed, is deposited in a series of balloons filled with alkali; and the air, extricated by combustion, collected in a particular gasometer, after having passed through successive intermediate vessels. All the parts are connected by flexible tubes, or others fitted by ground stopples or secured by screws, so that lutes are unnecessary. By regulating the admission of pure air, and of course the combustion, the refrigeration which Lavoisier was obliged to employ is rendered unnecessary.

In the sixth chapter the author describes his improvement of Lavoisier's apparatus, for the combustion of oils, which is effected by a kind of Argand's lamp, burnt by means of pure air, from a gasometer. The air is dried, by passing through alkali, and the water, after condensation, secured in a particular receiver. The lamp is lighted by a hot iron, applied to the circular wick, on which a bit of phosphorus has been previously placed; and when the experiment has been correctly made, the sum of the weights of the water and the acid is equal to that of the oil burnt, and the air united with it. A more compendious method is, to separate the hydrogenous gas from the oil, by making a paste of quick lime, by means of oil. When this is exposed to heat, carbonated hydrogenous gas is separated. This gas is introduced into a balloon, and burnt with oxygen, and, by means of lime and alkali, the proportion of the newly formed substances is separately ascertained. The author thus obtains the proportions of carbone and hydrogen in this gas. This is of more importance, as he thinks the advantages derived from inspiring this gas, in diseases, depends on the proportion of carbon.

The sixth chapter is peculiarly interesting, as it contains experiments for decomposing alcohol, by means of heat and metals, which, when iron and copper are employed, produce

a remarkable composition of carbon with both. This is the finery cinder of Priestley, obtained by exposing copper red-hot to the vapour of alcohol. He obtained similar substances, with other metals, to which he has given the generic name of metallic carburs. Van Marum repeated the experiments, to ascertain, if possible, more exactly, the nature of carbon, though in this last he failed. Copper-wire, exposed to the vapour of alcohol, gained considerably in weight, but not in so great a degree as in Dr. Priestley's experiments; which may be owing to the greater heat employed by the latter. The production was hydrogenous gas, and the copper was wholly reduced to a cinder.

With iron the increase of weight was less, and not, as in copper, at the part which had sustained the red heat, but where the heat had only given the deep blue colour. Van Marum did not find silver affected by the vapour in the same way, though the experiment succeeded with Dr. Priestley. He employed his silver unadulterated, and subjected it to a considerable degree of heat. Lead, tin, zinc, and bismuth, did not produce any cinder; and with antimony, cobalt, and manganese, he was equally unsuccessful, though they all furnished hydrogen of nearly the same weight.

Our author next examined this cinder, as procured from copper, and put 40 grains in a particular apparatus, with 140 grains of oxygenous gas, confined by mercury. It was lighted by a red-hot iron, assisted by a minute bit of phosphorus, and burnt freely, like charcoal, except that the whole was not consumed. The gas produced was absorbed by alkali, and was therefore carbonic acid gas, in the formation of which 84 cubic inches of oxygen were employed: 56 remained. What was left, after the burning, dissolved in nitric acid, and appeared to be copper not quite changed to a cinder. This production then is a true carbur of copper, similar to the carbur of iron or plombago, obtained from iron, by the same treatment. The quanity of carbon, however, united with the copper, is much less than the alcohol must have furnished; and, on examination, it appears that a part of it is combined with the hydrogen, which is of consequence more heavy than usual, and the rest is deposited on the surface of the water, and the sides of the vessels and tubes. Our author thinks these experiments not capable of ascertaining the exact proportion of the component parts of alcohol, but only of showing its nature, and prefers his apparatus to that of Lavoisier, as less liable to explosions.

The eighth chapter contains a description of a simple apparatus, for a public course, to show the oxydation of mercury. This it very clearly demonstrates; and mercury, tin, and lead, in oxydating, are found to gain, very exactly, as

much in weight as there is diminished in the weight of the oxygen.

In the ninth chapter the author describes an apparatus, successfully employed, to show the combustion of iron in oxygenous gas, similar to Dr. Ingenhouz' experiment. Our author's instrument is very convenient, and the operator avoids many of the inconveniences to which the apparatus of that philosopher was subject. The correspondence between the weight, gained by the metal, and lost by the air, fully proved the pneumatic theory.

The next object was to show, more conveniently, the vaporisation of water, on removing the pressure of the atmosphere, and it is the subject of the tenth chapter. Our author's apparatus was very simple, and it appeared that, in proportion to the increase of temperature, the conversion of the liquid into vapour was longer, and acted more forcibly on the barometer: the pressure is still greater, the more volatile the fluid which is employed. Thus, at a temperature of 56° of Fahrenheit's thermometer, water forming vapours sunk the mercury .4 of an inch; alcohol 1.5; ammonia 7.2; sulphuric ether 12.5. These vapours are not however permanent, for they immediately become fluid, on restoring the pressure of the atmosphere.

The last machine described in the eleventh chapter is a new air pump of a more simple contrivance than usual, which makes a more complete vacuum, and may be employed also in condensing the air. Our author highly commends Mr. Cuthbertson's air pump, and thinks it produces a greater vacuum than any other which preceded it; but this property, he observes, does not continue, that it is, in other respects, very complicated, and exhausts but slowly, on account of the smallness of the body of the pumps, and the little play of the pistons.

Our author's pump has but one cylinder, of a large size, so contrived, that, when the piston is at its lowest point, it touches accurately the bottom of the pump. By a very simple contrivance, he opens and shuts the cock which communicates from the external to the internal parts, by a sort of pedal easily managed. This pump, when well cleaned and perfectly dry, will exhaust a receiver of 906 cubic inches, so completely that the mercury sinks to $\frac{1}{12}$ of an inch; and in a receiver of from 50 to 100 cubic inches, the mercury is only supported at $\frac{1}{24}$ of an inch. He next describes the condensing part, with a singular experiment made on ammoniacal gas. This was found more compressible than common air; and, when the tube containing the latter was reduced $\frac{1}{3}$ of its original capacity, the other, containing the gas, was almost wholly filled, the ammoniacal air having been compelled to resume

its fluid form. On reſtoring the air to its uſual ſtate, the ammonia again becomes a gas, and fills very nearly the former ſpace. We greatly regret that a thermometer did not make a part of this apparatus. From the wide and eſtabliſhed reputation of the author, from the ſcale on which his experiments were made, and his known accuracy and integrity in obſerving and reporting the reſults, we conſider this work as the key-ſtone of the vaſt arch founded indeed in this country, but continued and completed on the continent.

Les Géorgiques de Virgile, traduites en Vers Français par De Lille. Edition à laquelle on a joint le Texte Latin, avec les Notes et les Variantes. Paris.

Virgil's Georgics. Tranſlated into French Verſe, by M. De Lille. With Plates. 8vo. 1*l.* 1*s.* Imported by Dulau and Co.

AGRICULTURE, till of late years, has been a ſcience infinitely leſs attended to in France than in England. Under the old régime it was conceived a degrading employment, and the health and ſimplicity of the fields were relinquiſhed for the ſplendour and corruption of the court. On this account the Georgics of Virgil, the firſt rural poem that ever was compiled in any language, has hitherto met with a far colder reception in the former country than in the latter; and has lately been altogether abandoned as a work devoid of intereſt, full of errors, written without method, and upon a ſubject too low for the genius of poetry to be capable of elevating it. The times, however, are in this reſpect happily changed. Agriculture in France has began to be more juſtly appreciated: the life of primæval innocence is no longer regarded as unworthy and degrading; the politician has calculated its benefits to the ſtate, and the philoſopher demonſtrated it to combine a larger proportion of mental and corporeal felicity than any other mode of exiſtence in which mankind can engage. M. de Lille, who has already produced the firſt didactic poem upon the picturesque beauty of rural ſcenery that France has ever witneſſed, a poem which was written contemporarily with 'The Engliſh Garden' of the late venerable Maſon, animated with the ſame genius, and inflamed, in its epiſodes, with the ſame political ſpirit, and which has ſince received the honour of two diſtinct Engliſh verſions, has not been inattentive to this change of character and opinion among his countrymen; and, apprehending the preſent æra to be propitious to ſuch an

undertaking, has once more ventured upon introducing the Georgics of Virgil to their notice by a new and very elegant verſion, accompanied with the original text, together with a variety of plates and notes. The appendix and notes we rejoice to meet with; we ſhall occaſionally take the liberty of animadverting upon them in the ſequel of this critique, and ſhall have occaſion to object to the abſence of ſuch an accompaniment, as a poſitive defect in a work of this deſcription, in our account of Mr. Sotheby's Engliſh verſion of the ſame poem. As to the plates, which are engraved by De Longueil, from deſigns of Caſanova, they are, we think, the leaſt valuable part of the publication: the ſubjects are not well ſelected; there is no prominence of character among the figures introduced; and the whole is confuſed, inſipid, and devoid of intereſt. They may, perhaps, appear pretty to the multitude, but they cannot be applauded by the man of taſte. They are five in number, the firſt forming a vignette to the title-page, and the remaining four attached to the commencement of the four books of which the Georgics conſiſt. The text does not differ very eſſentially from the Dauphin edition; the paper is woven, and both this and the type highly elegant and captivating.

The Georgics of Virgil, though they have never been a favourite poem with the people of France, have, nevertheleſs, undergone a greater variety of tranſlations among them than have even appeared in our language. Of theſe ſome have been in verſe; but by far the greater number, and the moſt meritorious, have followed the general rule of French interpreters, and been exhibited in inflated proſe. Of the tranſpoſitions in metre, that of the abbé de Marolles is the firſt, in order of time, which has ever fallen beneath our notice. The abbé was a worthy man, but an unfortunate tranſlator in every inſtance; and his verſion of Virgil, like that of Lucretius, is, we are afraid, now ſeldom to be met with but in the decoration of old trunks. He was ſucceeded by Segrais, Martin, and Pinchêne: of theſe junior attempts, that of Segrais is, in our judgement, preferable to the other two, though it is ſcarcely entitled to the praiſe of mediocrity. As to Martin, his very name is now nearly forgotten, while that of Pinchêne, though the nephew of De Voiture, lives only in the ſatyric verſes of Boileau, who has 'damned him to everlaſting fame' for the wretchedneſs of his poetical effuſions. With reſpect to the proſe tranſlators, they form a more numerous corps ſtill; but it would be uſeleſs to run through their catalogue. We ſhall only obſerve that the verſions of moſt eminence are thoſe of Catrou, the four Profeſſors, and the abbé Desfontaines; and we unite with M. de Lille in giving the preférence to the laſt.

From this cursory retrospect it is obvious there has been nothing hitherto in the French language worthy of the genius and talents of the Roman bard; that the ground the present author has selected for himself may be considered as unoccupied, and that he is as happy in the choice of his subject as in the period of its appearance.

The poem is preceded by a long preliminary discourse; the principal topic of which is the woeful poverty, insipidity, debility, and want of harmonious combinations of his native tongue, and consequently the tremendous difficulties he had to encounter in the translation that follows. This strain of lamentation is indulged in to the utmost degree of exaggeration; and however it might have been allowed to such transposers as the abbé De Marolles, or the baron De Coutures, it is totally unworthy of a man possessed of the powers of M. de Lille. While perusing this passage, we could not avoid objecting to it as libellous, and actually disproved, by recalling to our recollection the very elegant and masterly poem of 'Les Jardins,' lately published by the author himself, the Horatian compressibility of Boileau, the nervous spirit of Corneille, and the chaste simplicity of Racine; when we found him immediately afterwards bursting forth into an exclamation of a different kind altogether. 'Nevertheless,' says he, p. 43, 'I dare assert that I have often believed all these difficulties might be overcome by a truly great writer, who would consent to the degradation of translating. If climate, government, manners, possess, as I have already contended, an influence over languages, the genius of such a man possesses an influence as large: it is he who chastises them and binds them to his will, who recals terms that are obsolete, naturalises those that are new, transports the treasures of one language into another, approximates their distance, compels them, in a manner, to sympathise, renders the most barren idiom fertile, the rudest harmonious, who enriches its poverty, strengthens its weakness, confirms its timidity, employs all its resources with advantage, creates resources that were heretofore unknown, makes it the vocabulary of all places, of all times, of all arts.' And to corroborate this extensive position, he immediately instances examples of its truth from the very poets whose names we have just enumerated; concluding, in p. 46, that the French language, 'managed with address, and corrected by labour, is able to descend, without vulgarity, to the most common objects, to elevate itself, without hardihood, to the most exalted, and to paint almost every thing by images, by sounds, by cadences: and it is in this persuasion, adds he, that I have hazarded a translation of the Georgics.'

Within the boundary of this diſcourſe the author takes a curſory review of ſeveral French and Engliſh poets who have exercifed their powers upon rural ſubjects. Of the latter he mentions only Milton and Thomſon, to each of whom he pays a merited compliment. But in a compariſon which he afterwards delineates between this latter poet and Virgil, we cannot accede to his aſſertion that the Engliſh bard is deficient in order and tranſition, that he has no object in view, and that whenever he imitates Virgil, he imitates him amiſs. The order and connexion of both poets is that of the ſeaſons, and from the nature of their undertakings there can be no other; the tranſitions of Thomſon, like thoſe of Virgil, ariſe in every inſtance from the natural ſubject diſcuſſed: his object, though not the ſame as that of the Roman bard, is certainly as perſpicuous; the one is definite précept, the other pictureſque delineation; and as to his unhappy powers of imitation, we believe none of the tranſlators of the Georgics into our own language have ſo felicitouſly expreſſed the ideas of their great prototype as Thomſon himſelf, in every inſtance in which he has exerciſed his imitative powers. And we now particularly refer to the cloſe of his Autumn, in which he has literally copied the Roman bard's exquiſite picture of the pleaſures of a rural life, commencing thus:

> ' Oh! knew he but his happineſs, of men
> The happieſt he! who, far from public rage,
> Deep in the vale, with a choice few retired,
> Drinks the pure pleaſures of the rural life.'

The verſion of M. de Lille opens with ſpirit. Like Warton, he inſiſts upon the propriety of regarding the *clariſſima mundi lumina* as diſtinct perſonages from *liber et alma Ceres*; and the well known paſſage in Varro is appealed to by the French as well as by the Engliſh tranſlator. ' Some interpreters,' ſays he, ' have believed that by Bacchus and Ceres, Virgil here underſtands the ſun and moon; a paradox which the commentators, however, can only advance, to have an opportunity of detailing their erudition.' In this reſpect we think our author unneceſſarily ſevere: we ſhall have occaſion to offer our opinion upon the ſubject in our review of Mr. Sotheby's verſion, and ſhall there venture to aſſert that the preſent tenet is erroneous. In the opening of the poem we were ſtruck with the total omiſſion of the name of Mæcenas, to whom it is directly addreſſed in the ſecond verſe of the original. From whence this omiſſion proceeds we are totally at a loſs to determine. Mæcenas exiſted in the ſame kind of relation to Virgil that Bolingbroke did to Pope, in the conjoint character of friend and

patron; and Pope was not more ſtimulated by the latter to compile his Eſſay on Man, than Virgil was by the former to compoſe his Georgics. Both wrote their inimitable poems at the particular requeſt of their patrons, and both invoked them in their commencement. But what would M. de Lille think of the accuracy of the abbé Dureſnel, who has tranſlated conſiderably from Pope with appropriate ſpirit, if, in a verſion of his Eſſay on Man, he had omitted the celebrated invocation to the honourable Mr. St. John, which occurs in the firſt line of its commencement; but which does not give more animation to it than the name of Mæcenas to the commencement of the Georgics?

> Quique novas alitis *non ullo* ſemine fruges. B. i. v. 22.
>
> 'Qui de nos fruits heureux nourriſſez les prémices.'

We prefer this lection to the common reading *nonnullo*; and admit the juſtice of our author's obſervation, that the poet is here ſpeaking of thoſe plants which were ſuppoſed to ſpring up ſpontaneouſly, without the ordinary proceſs of ſowing; a proceſs which refers excluſively to thoſe enumerated in the verſe enſuing. The contraſt reſulting from this interpretation produces at leaſt an additional beauty.

B. i. v. 212. ———— *cereale papaver.* The note appended to explain the meaning of the adjective *cereale* is unneceſſary; and we might retort the charge that it was introduced for the purpoſe of detailing our author's erudition. 'Why,' ſays he, 'is the term *cereale*, "of or belonging to Ceres," applied to the poppy? The commentators have tormented themſelves for the meaning of the word. The poppy was accuſtomed to be mixed, among the ancients, with their wheat, in the formation of bread, and hence the ſtatues of Ceres were adorned with it. This, as it appears to me, is the moſt *natural* explanation of the word *cereale*.' A ſchoolboy would not have travelled ſo far, but would, neverthleſs, have given one more *natural* ſtill. The firſt corn-field he paſſed through, with his ſatchel upon his ſhoulders, would have ſhown him a profuſion of poppies ſpringing up with the wheat, and colouring the whole ſcene with the bright and elegant tincture of its flowers. As he paſſed on, he would find that this union of corn and poppy-flowers was common to every field; and he would require no other interpretation to explain to him the beauty of the expreſſion *cereale papaver*. Our author ſhould not have omitted this appropriate character in his verſion.

> Ipſe pater, mediâ nimborum, in nocte, coruſcâ, &c.
> B. i. v. 328.

Our poet has confessedly bestowed much labour upon this bold and energetic passage, and he has considerably succeeded. We transcribe it with much pleasure.

> 'Dans cette nuit affreuse, environné d'éclairs,
> Le roi des dieux s'assied sur le trône des airs:
> La terre tremble au loin sous son maître qui tonne:
> Les animaux ont fui; l'homme éperdu frissonne;
> L'univers ébranlé s'épouvante . . . . . le dieu,
> D'un bras étincelant dardant un trait de feu,
> De ces monts si souvent mutilés par la foudre,
> De Rhodopé ou d'Athos met les rochers en poudre,
> Et leur sommet brisé vole en éclats fumans:
> Le vent croît, l'air frémit d'horribles sifflemens:
> En torrens redoublés les vastes cieux se fondent:
> La rive au loin gémit, et les bois lui repondent.' P. 95.

In the fourth line of the above extract, the expression *les animaux ont fui* retains, most happily, all the vigour and vivacity of the original *fugêre feræ*. The tameness of Dryden's version of this spirited picture is well known,

> And flying beasts in forests seek abode.

Our author does not appear to be acquainted with any other English translation of the Georgics than this of Dryden. Had he ever been favoured with a perusal of Dr. Warton's, we are persuaded that his own liberality would have induced him, while exposing in this place the insipidity of one of our translators, to have contrasted it with the force and effect of another, who has completely anticipated him both in his remark upon the vivacity of this passage in the Latin text, and of the deficiency of Dryden's version of it. In Warton it occurs thus, v. 398.

> The nations shrink appalled—*the beasts are fled.*

The line that follows is peculiarly in favour with our author; and he acknowledges he has laboured it with extreme diligence. We cannot neverthelefs allow it the merit for which he entreats. *L'univers ébranlé* does not occur in the Latin text: it is a needless iteration of *la terre tremble*; and as to the hemistich which he has had the hardihood to introduce into this verse as an imitation of the abrupt cadence of the original, to our ears it does not altogether answer the purpose, and few French critics, we apprehend, will pardon the unparalleled license he has thus taken.

> Ad terras, immanè sonat per saxa, nec ipso
> Monte minor procumbit, &c. B. iii. 239.

'Tel, par un pli léger ridant le fein de l'onde,
Un flot de loin blanchit, s'alonge, s'enfle et gronde:
Soudain le mont liquide, élevé dans les airs,
Retombe: un noir limon bouillonne fur les mers.'

P. 239.

We have felected this paffage on two accounts; firft, becaufe of the appropriate force and fpirit of the terms employed in the verfion; and, fecondly, becaufe it prefents us with a mechanical beauty, in the abrupt cadence of the laft line, which our author has in vain attempted, in our opinion, in the paffage laft quoted; a beauty which we thus fee the French language, in the hands of a poet of M. de Lille's ability, is capable of exhibiting, without the introduction of unjuftifiable and anomalous licenfes. Were we difpofed to raife any objection to this elegant extract, it would be that it is rather too paraphraftic.

But we dare not indulge in the length of criticifm to which this unrivalled poet of France naturally ftimulates us. Our critique on Mr. Sotheby's tranflation of the fame poetical effay is already written; and having in this extracted a few complete fentences from the original as well as the Englifh interpretation, we fhall now prefent our readers with M. de Lille's verfion of two or three of the fame, that they may be the better enabled to eftimate the comparative merit of the French and Englifh performance.

The following is M. de Lille's defcription of the figns of an approaching tempeft.

'Quelquefois, de l'orage avant-coureur brûlant,
Des cieux fe précipite un aftre étincelant,
Et dans le fein des nuits, qu'il rend encor plus fombres,
Traîne de longs éclairs qui fillonnent les ombres;
Tantôt on voit dans l'air des feuilles voltiger,
Et la plume en tournant fur les ondes nager.
Si l'éclair brille au nord, de l'Eure et de Zéphyre
Si la foudre en éclats ébranle au loin l'empire,
Alors, ô laboureur, crains les torrens des cieux;
Nochers, ployez la voile, et redoublez vos vœux.
Que dis-je? tout prédit l'approche des orages:
Nul, fans être averti, n'éprouva leurs ravages.
Déja l'arc éclatant qu' Iris trace dans l'air,
Boit les feux du foleil et les eaux de la mer;
La grue, avec effroi s'élançant des vallées,
Fuit ces noires vapeurs de la terre exhalées;
Le taureau hume l'air par fes larges nazeaux;
La grenouille fe plaint au fond de fes rofeaux;
L'hirondelle en volant effleure le rivage;
Tremblante pour fes œufs, la fourmi déménage;

Et des affreux corbeaux les noires légions
Fendent l'air qui frémit sous leurs long bataillons.
' Vois les oiseaux des mers, et ceux que les prairies
Nourrissent près des eaux sur des rives fleuries;
De leur séjour humide on les voit s'approcher,
Offrir leur tête aux flots qui battent le rocher,
Promener sur les eaux leur troupe vagabonde,
Se plonger dans leur sein, reparaître sur l'onde,
S'y replonger encore, et par cent jeux divers
Annoncer les torrens suspendus dans les airs.
' Seule errante à pas lents sur l'aride rivage,
La corneille enrouée appelle aussi l'orage.
Le soir, la jeune fille, en tournant son fuseau,
Tire encor de sa lampe un présage nouveau,
Lorsque la mèche en feu, dont la clarté s'émousse,
Se couvre en pétillant de noirs flocons de mousse.'

P. 96.

In the following verse of this passage,

' — des affreux corbeaux les noires légions,'

we cannot but strongly object to the use of the term *corbeaux*, as it not only occurs in absolute inconsistency with the natural history of the *corbeau* or *raven*, which is a solitary and not a social bird, but as a false interpretation of the term adopted in the original. Virgil does not here speak of ravens but of rooks. *Corneilles* would have been less erroneous, but *grolles* is the term immediately referred to.

The chariot race, described in the third book, is rendered with much spirit and success: the abrupt commencement of the original, so accurately preserved by Warton, is lost, however, in this French version.

' Le signal est donné: déja de la barrière
Cent chars précipités fondent dans la carrière;
Tout s'éloigne, tout fuit; les jeunes combattans,
Tressaillans d'espérance, et d'effroi palpitans,
A leurs bouillans transports abandonnent leur ame:
Ils pressent leurs coursiers; l'essieu siffle et s'enflamme.
On les voit se baisser, se dresser tour à tour;
Des tourbillons de sable ont obscurci le jour;
On se quitte, on s'atteint, on s'approche, on s'évite;
Des chevaux haletans le crin poudreux s'agite;
Et blanchissant d'écume, et baigné de sueur,
Le vaincu de son souffle humecte le vainqueur:
Tant la gloire leur plaît, tant l'honneur les anime!'

P. 229.

In his version of the pleasures of a rural life, towards the termination of the second book, M. de Lille is obviously, we

think, ſuperior to any of our Engliſh tranſlators both in vigour and fidelity. The beginning of this beautiful digreſſion has much praiſe.

> ' Ah ! loin des fiers combats, loin d'un luxe impoſteur,
> Heureux l'homme des champs, s'il connaît ſon bonheur !
> Fidèle à ſes beſoins, à ſes travaux docile,
> La terre lui fournit un aliment facile.' P. 181.

And the addreſs to the Muſes is little inferior to the commencement.

> ' O vous à qui j'offris mes premiers ſacrifices,
> Muſes, ſoyez toujours mes plus chères délices !
> Dites-moi quelle cauſe éclipſe dans leur cours
> Le clair flambeau des nuits, l'aſtre pompeux des jours ;
> Pourquoi la terre tremble, et pourquoi la mer gronde ;
> Quel pouvoir fait enfler, fait décroître ſon onde ;
> Comment de nos ſoleils l'inégale clarté
> S'abrège dans l'hiver, ſe prolonge en été ;
> Comment roulent les cieux, et quel puiſſant génie
> Des ſphères dans leur cours entretient l'harmonie ?
> ' Mais ſi mon ſang trop froid m'interdit ces travaux,
> Eh bien ! vertes forêts, prés fleuris, clairs ruiſſeaux,
> J'irai, je goûterai votre douceur ſecrète :
> Adieu, gloire, projets. O côteaux du Taygète,
> Par les vierges de Sparte en cadence foulés !
> Oh ! qui me portera dans vos bois reculés ?
> Où ſont, ô Sperchius, tes fortunés rivages ?
> Laiſſez-moi de Tempé parcourir les bocages ;
> Et vous, vallons d'Hémus, vallons ſombres et frais,
> Couvrez-moi tout entier de vos rameaux épais.' P. 183.

We cannot pay altogether the ſame compliment to his verſion of the exquiſite epiſode of Orpheus and Eurydice: here we think him inferior, both in ſtrength and pathos, to Dryden and Warton. The exquiſite couplet, ſo difficult to be rendered with effect into any other language, b. iv. v. 497.

> Jamque vale: feror ingenti circumdata nocte,
> Invalidasque tibi tendens, heu ! non tua, palmas:

is extended to nearly ſix verſes, and occurs thus:

> ' Adieu ; déja je ſens dans un nuage épais
> Nager mes yeux éteints et fermés pour jamais.
> Adieu, mon cher Orphée ; Eurydice expirante
> En vain te cherche encor de ſa main défaillante ;
> L'horrible mort, jetant ſon voile autour de moi,
> M'entraîne loin du jour, hélas ! et loin de toi.' P. 335.

Eurydice expirante en vain te cherche, &c. is infinitely leſs

impressive than *invalidasque tibi tendens,* &c. and the expression *loin du jour, hélas! et loin de toi,* will form no comparison with the compressed and exquisite sensibility of *heu! non tua.*

Notwithstanding, however, these occasional defects in translating a poem that is, perhaps, the most finished of any poem in the world, M. de Lille has executed his task with wonderful success, and has added, in no inconsiderable degree, to the poetic fame of which he has long and honestly been possessed. It has been his grand and avowed object to imitate the harmonious flow of numbers so conspicuous in the Georgics; and in this point we think he is absolutely unrivalled by our English interpreters; while in France there is no one who ought to hold a place in the same library. His notes are highly entertaining, and by no means uninstructive; they are rather explanatory than critical; and have the merit of much novelty in proving, by extracts from Pliny, Columella, and other agricultural writers, that Virgil was perfectly versed in the science of rural œconomy, as it existed in his own age; while he adventures, by citations from more modern agriculturists, to recommend the greater part of his precepts to the practical farmer of the present day. The republic of France is under great obligation to this elegant poet for the combined entertainment and instruction he has hereby provided for it; and amidst the universal *agromania,* to adopt a term of our author's, which it is now daily evincing, we are not surprised to find that his labours have been devoured with an almost insatiable avidity. Long may his countrymen feast upon the same salutary diet!

M. de Lille's *L'Homme des Champs* is at this time under our consideration, and some account of it we shall take care to communicate shortly.

Leçons d'Anatomie Comparée de G. Cuvier, Membre de l'Institut National, Professeur au College de France, et à l'Ecole centrale du Panthéon, recueillies et publiées sous ses Yeux. Par C. Dumeril, Chef des Travaux Anatomiques de l'Ecole de Médicine à Paris. 2 *Vols.* 8*vo.* Paris. 1800.

Lectures on Comparative Anatomy by G. Cuvier, Member of the National Institute, &c. Published by C. Dumeril. Imported by De Boffe.

COMPARATIVE anatomy is yet in its infancy; and, whilst the subject of human anatomy is exhausted by the repeated descriptions of useless minutiæ, no author has yet detailed, with systematic accuracy, the progressive changes or de-

gradations of each organ in other animals, or in the more imperfect classes. In our own language, we have the indiscriminate mass of Collins, the masterly sketch of Monro, but yet a sketch only. We have the prospect indeed of something more laboured and complete, more minutely descriptive and more elegantly illustrated, from Dr. Harwood; but at present it is in perspective, and we must feel an apprehension, from its slow progress, of the ultimate failure of our expectations. Besides these, we have only scattered facts in different collections, the most valuable of which are from the late Mr. J. Hunter, who might have furnished many important materials for the future student, had not the multiplicity of his occupations distracted his attention from an object that, at one time, seemed to occupy him entirely. From our present author we may expect an account more definitive and complete, illustrated with numerous plates, assisting the description of the gradual variations in the structure of each animal, as adapting it to different situations, or employed in different functions. M. Cuvier is professor of anatomy in the central school of the Pantheon, and has free access to that noble collection which Daubenton created, and 'from whence he drew the materials of the most important part of an immortal work.' He is assisted by the sage and experienced counsels of M. Mertrud, who for nearly half a century has been engaged in investigations of this kind; who laboured with Daubenton, was highly praised by Buffon, and has refused the most brilliant and lucrative situations in foreign countries, to pursue his favourite science in a place where it could be alone cultivated with complete success. The title, however, will inform the reader that this is not the work of M. Cuvier, but a copy of his lectures, by one of the most distinguished of his pupils. It has, nevertheless, been examined and corrected by the author, who admits it to be his own; and, while his vast system of comparative anatomy waits the tedious, but necessary labour of engraving, M. Cuvier permits this compendium, this shorter collection of facts and opinions, to prepare its way. Were we not taught to expect more, we should consider this as a most valuable system, meriting considerable praise. It indeed fills a chasm that has been long empty, and which we have often had occasion to regret had not before attracted the attention and animated the exertions of anatomists.

To expatiate on the utility of comparative anatomy would be an useless task; yet it has been placed in so striking a light by M. Cuvier himself, in his introductory letter, that we shall select the passage.

'Chemistry and natural philosophy can reduce to an almost indefinable simplicity the problems which they offer. They

can ſeparate the ſubſtances whoſe relations and whoſe nature they wiſh to examine, and can compare and combine them ſucceſſively with every other. The phyſiologiſt has not this advantage. Every part of a living body is connected, and cannot act but when united. To ſeparate one part of the maſs is to reduce it to the rank of a dead ſubſtance, and to change entirely its nature. The machines which are the objects of our inveſtigation cannot be diſmounted without being deſtroyed. We do not know what would be the reſult of the abſence of one or many of the wheels, and conſequently cannot know what part each acts in the whole machine.

'Nature has happily prepared the means of remedying the impoſſibility of making certain experiments on living bodies. She preſents, in different claſſes of animals, almoſt every poſſible combination of organs: ſhe ſhows them united by twos, by threes, and in almoſt every proportion. There is not one of which ſhe has not deprived ſome claſs or ſome genus; and it is ſufficient to examine the effects of theſe re-unions, or theſe privations, in order to draw probable concluſions reſpecting the nature and uſe of each organ from its individual form.

'We may follow the ſame track in determining the uſe of different parts of any organ. To diſtinguiſh the eſſential from the acceſſory, we need only examine what parts are conſtantly found, and what change is produced in the functions of any organ by the abſence of thoſe parts, which are ſometimes wanting in certain claſſes.

'We are not, however, permitted to confine our reſearches to a few ſpecies only: a ſingle one neglected diſcovers an exception, which deſtroys a ſyſtem. This method of reaſoning, it will be obvious, cannot be exact, till we have obtained a complete knowledge of the anatomy of animals; but, if comparative anatomy is not yet ſufficiently perfect to conduct us to certain diſcoveries, it may become the touch-ſtone of reſults obtained by other ways, and a ſingle fact from this ſcience has at once deſtroyed the whole ſcaffolding of phyſiological inveſtigation.'

M. Cuvier has adopted the various obſervations of his predeceſſors, when his own labours have ſhown that they are well eſtabliſhed; but we perceive that he has not copied them very anxiouſly; and when he has ſubmitted to do ſo, has not been careful to refer to his authorities. In this part of his work there are ſome ſtriking traits of the literary characters of two nations (we ſuppoſe the German and Engliſh), which, as the paſſage is not long, we ſhall tranſcribe.

'You will perceive that the greater number of the authors I have been deſcribing, are of a nation, which, excellent as it is from its inventive genius and its indefatigable patience in every

research, has not been able to contain, within proper bounds, an eagerness to display its erudition; an eagerness which may, however, be probably the effect of too much modesty, and a mistaken respect for others.

'Another nation, not less admirable for the boldness of its views, and its exertions in every thing relating to science, seems to have fallen into the opposite error, in despising foreigners too much; and in valuing and consulting only its own countrymen. This kind of pride, useful perhaps in a political view, will, in scientific researches, particularly in those of facts, contract the ideas and give that dryness which forms the character of some of its natural historians and comparative anatomists.'

It is now time to leave M. Cuvier's introductory letter, and examine the body of the volumes themselves. Those at present published contain a comparative description of the organs of motion; and of the brain, nerves, and organs of sense. A vast field remains which, we should suppose, would fill at least three, if not four, other volumes. These we have reason to think ready for the press, but were they not—'est quoddam prodire tenus, si non datur ultra.'

The work commences with some general observations on the animal œconomy. Animal life is considered with respect to its nature, its origin, and the structure of the organs to which its phænomena are owing; thus contrasting inorganic and organised matters, whether vegetable or animal. To these succeed a general view of the animal functions with their consequences, and a concise table of the parts of animals, as well as their principal uses. The infinite variety of modifications of which life admits are then examined, as referable to each particular function; viz. locomotion, sensation, digestion, absorption, respiration, voice, generation, &c. This article leads to a very important consideration, viz. the relation between the various systems of organs, showing how the existence of one is connected with that of every other; in what manner, when one is weakened, disappears, or advances, in the series of animals, another takes analogous or opposite characters; the connexion between the nature of the aliments, and the particular forms of locomotion, as well as the correspondence between the nervous and respiratory systems. The classification of animals, from their organisation and anatomical characters, follows; and an abridged view of this chapter is comprised in nine tables at the end of the first volume. We have examined it with some care, and perceive with satisfaction that the outlines of the Linnéan system are thus preserved, and some of its apparent incongruities avoided. The bat, for instance, is excluded from his association with man. This classification deserves to be better known, but we cannot abridge it.

M. Cuvier next proceeds to the organs of motion. He examines the bones in a general way, and instantly passes on to the muscular fibre, its composition, and vital powers. Then returning to the bones more particularly, he treats of their elements and their evolution at three periods in some animals, and at two in others, the form of their cavities and sinuses, instanced in birds, where the air circulates through them, in horned animals, &c. The decay and reproduction of the ossious system is a kind of necrosis. Indeed we well know that living animal matter is not absorbed. Shells which form the firm resisting parts of many moluscæ, and the bone of the cuttle-fish in particular, engage his attention. He next treats of articulations, distinguishing those of which there is no example in the human body, as the claws of cats, the weapons of defence employed by the morse, and many others peculiar to fish, pursuing the subject to the articulations of the shells of the moluscæ, those of the crustaceæ and insects. He notices the organisation of the tendons in the two last orders, their absence in the moluscæ, their mode of union with the fleshy fibres, uses, &c. in more perfect animals, finishing with remarks on the portions into which the skeleton is divided, and the different degrees of perfection which each shares in different species.

The spinal column is next described in its whole variety. It is singular, that while the number of vertebræ in each region differs in different animals, that of the cervical vertebræ is uniform, except in the three-toed sloth. It is impossible to abridge descriptions, but these are in every part accompanied by philosophical considerations on the relation between the muscles and the bones, as, for instance, between the want of the pronators and the absence of one of the bones of the fore arm of the bat; between the organs, and the habits, the manners, and mode of living of different animals.

The locomotive organs of animals with white blood are explained with more difficulty than those of animals with red, because they have not such general relations to each other. After dividing them into families, the author is obliged to except two or three species, and describe them separately. In these lower orders, the species often differ more from each other than the classes of more perfect animals. This part is concluded by the examination of these orders in action: first, in standing, on two feet, in a vertical position, as man; in an horizontal position, as fowls; or on four feet, as the mammalia: secondly, in walking, either on two or four feet: thirdly, the modes of holding and climbing: fourthly, leaping: fifthly, swimming: sixthly, flying. These different functions are explained only in those animals which have vertebræ: they are treated of with the organs themselves in those which have no vertebræ.

The ſecond volume is introduced by an examination of the head, conſidered as the receptacle of the principal organs of ſenſe. The author treats of the ſkull, and its proportions to the face, particularly in a perpendicular ſection; and of the remarkable diminutions of the facial angle, as examined in a ſeries of animals. In the ſkull, he conſiders the number, connexion, and form of the bones; the projections and cavities of its internal parts, which point out the ſhape of the medullary organ contained in it; the foramina, with which the baſe of the cranium is perforated, and which are equally the indices of the diſpoſition of the nervous ſyſtem. In the face, he deſcribes the number, the figure, and the diſpoſition of the bones; the foſſæ obſervable in them; the different foramina and inequalities which give a paſſage to the nerves and admittance to the blood veſſels. It is curious to remark how all theſe parts increaſe and diminiſh, and aſſume a thouſand varied ſhapes on the mammalia, birds, reptiles, and fiſhes, for all the varied form of the different organs are purſued in each claſs.

M. Cuvier proceeds from the receptacle of the organs, eſſential to ſenſation, to the deſcription of the nervous ſyſtem, examining its organiſation, its relation in different diviſions, the texture of the brain and ſpinal marrow, the nerves and ganglions, and the manner in which they ariſe and terminate. This ſyſtem is next conſidered in action, propagating or receiving irritations; as the ſeat of various ſympathies, and the ſource of different intellectual operations. The brain of man is then compared with that of different animals. An infinite variety is found in its form; and, in ſpecies which have no vertebræ, many of its branches are not to be diſcovered. One part is, however, conſtant: in every animal there is a tubercle analogous to the cerebellum.

The particular examination of the nervous ſyſtem commences with a deſcription of the brain, in which the author purſues a courſe different from that of other anatomiſts. Indeed this is not the only anatomical anomaly, and we ſhould have mentioned ſooner the attempt to introduce a new nomenclature in many parts, particularly in the names of the muſcles. This language, like that of the new chemiſtry, is deſigned to be deſcriptive of the organ, and, in the myology, of the origin and inſertion of the muſcles. After deſcribing the human brain, he attends to that of the mammalia, and eſtimates its proportion, not only to the body, but to the cerebellum and medulla oblongata. The evolution of the internal parts, the diſpoſition of its baſe, and the origin of the nerves, are next conſidered; and the ſubject is purſued, in all theſe varieties, in birds, reptiles, and fiſhes, comprehending many circumſtances peculiar to each. The whole is compendiouſly brought into one view by an account of the characters of the brain proper to each claſs of animals, which not only ſhows

the ſtriking differences which ſeparate each claſs, and give them a diſtinction peculiarly their own, but which may perhaps ſupply, in ſome caſes, diſcriminating marks of ſpecies with more certainty than external form. The conſideration of the brain and ſpinal marrow concludes with a deſcription of its involucra and veſſels.

The accuracy with which the nervous ſyſtem of vertebral animals is detailed, renders it almoſt wholly a new work. The nerves are deſcribed as uſual in the mammalia, birds, reptiles and fiſhes; and it is highly curious to obſerve how each is changed, modified, and differently diſpoſed, from its correſponding nerve in the human body, which is always its prototype, in conſequence of the different forms or functions of the organs it ſupplies. This is particularly ſtriking in the the par vagum, the nerves of the diaphragm and thorax. The great ſympathetic nerve accurately deſcribed in each claſs, with the remarkable differences which diſtinguiſh it, terminates the hiſtory of the nervous ſyſtem in vertebral animals.

In the claſſes without vertebræ, it is almoſt neceſſary to deſcribe individuals, on account of the immenſe differences to be found in each ſpecies; but each of theſe individual deſcriptions will give a general idea of the diſtribution of the nervous ſyſtem in the families to which the animal belongs. Perhaps in theſe animals more minute accounts would have been tedious rather than inſtructive. The objects of the particular deſcription are well choſen, and they are the moſt common of the families, ſo that the diſſections may be more readily followed. The hiſtory of the nervous ſyſtem is terminated by an examination of the animals apparently deprived of it. Many have ſome analogous appearances, as the aſterias, holothuria, &c. while, in our author's opinion, the hydras and polypi have an homogeneous organiſation, where nothing can be diſtinguiſhed. His error, in this laſt reſpect, conſiſts in conſidering each individual as a ſingle animal, though, in reality, it is a congeries of animals, connected only by the homogeneous pulp.

In the treatiſe on the eye, M. Cuvier gives a general idea of viſion, and deſcribes every part of the organ in man and in different animals, mentioning the diſtinguiſhing parts peculiar to each claſs, as the pigmentum in man, the choroidal gland in fiſhes, &c. The manner in which the optic nerve enters the eye to form the retina, in animals with red blood, is found to be the ſame in the cuttle-fiſh, alone, of the lower orders.

The organs of hearing are treated of in an inverſe method, riſing from the ſimpleſt to the moſt complicated organiſation, from the cruſtaceæ to the mammalia. Every part, both internal and external, is thus purſued with the minuteſt accuracy.

The ſenſe of touch includes the organiſation of the ſkin, its

muscles, paniculus carnosus, &c. The form of the fingers leads the author to consider the organs which supply their place in other animals, as the trunk of the elephant, the upper lip of the rhinoceros, the long muscular muzzle of the hog, the comb of the cock, the tentacula of insects. The parts which defend these organs, as hair, feathers, horns, nails, &c. though not directly connected with the sensation of touching, are also noticed in each species. The organs of taste and smell are examined with the same minute attention in man and various animals.

We have preferred this general account of the whole of M. Cuvier's work to a selection of different parts, on which we might have expatiated more at large, to give the reader at one view some idea of its value, of the vast extent of our author's acquisitions in this department, and the information to be derived from his labours. We have seen nothing so complete and comprehensive, and anxiously wish for the future volumes, which we shall notice with particular care. To have followed him more closely would have engaged more of our attention and space than we could well bestow, and would have prevented that variety so essentially necessary for a literary journal, designed for general readers as well as scientific inquirers.

L'Inde en Rapport avec l'Europe, &c. Paris.

The Relations of India with Europe, a Work divided into two Parts; the first on the Political Interests of India; the second on the Commerce of that Country; and including Views useful to all Nations which have Colonies, chiefly those established in Africa, Asia, and the East Indies; and which presents, besides, a minute, exact, and dreadful Picture of English Machiavelism in the latter Country, and offers to the French Government, and to Commerce, an assured Resource in the Re-establishment, maturely considered, and so much dreaded by our Rivals, of a French East-India Company, supreme, and with exclusive Privileges. By Anquetil Duperron, Traveller in the East Indies, and of the late Academy of Inscriptions and Belles-Lettres. 2 Vols. 8vo. Imported by De Boffe.

SUCH is the prolix and partial title of this work, which we believe we mentioned in a cursory manner in one of our retrospects; but as the importance of the subject to this country authorises a more ample detail, we now resume it for that purpose. A striking singularity of this performance is, the spirit of enthusiasm with which it is composed, which might perhaps have been well adapted to the French character of the time, but, to the cool English reader, seems eccentric

and cenfurable in the difcuffion of political and commercial affairs. In this fame fpirit is written the dedication to the manes of Dupleix and Labourdonnais.

'Magnanimous Shades! from the peaceable abode which ye inhabit, deign to throw a glance on the fair climates of Afia, which ftill refound the greatnefs of your names! Audacious Albion has ufurped, in thofe countries, the trident of the feas and the fceptre of Hinduftan. Cruel and perfidious, fhe returns with ufury to France, her rival, the ftate of humiliation to which fhe was reduced by her military exploits and political operations.

'Breathe into the foul of your defcendants that fire, that national ardour; infpire them with thofe fublime fentiments of patriotifm, which elevated you fo far above your epoch. Let the Frenchman behold, in what you have done, what he himfelf can and ought to do!' &c. &c.

The author then expreffes his hopes of again feeing the French flag wave with majefty in the feas and regions of India. Vain and fallacious expectations! The Egyptian expedition is incapable of fulfilling them, and fate feems to have erected invincible barriers againft the return of the French to this country. If our fears had now any rational object in that quarter, it would be, left the emperor of Ruffia fhould refume the defign entertained by the late fovereign, of pouring an army into Hinduftan, which, affifted by the injuries of the natives, might fweep before it the very name and memory of the Englifh nation, and lay the trade of India open to all the other European powers. But this danger may perhaps be as imaginary as any of the views of our prefent author, who proceeds, in his preface, to confider numerous advantages that would refult to France from an expedition to India, but forgets to point out the means of fending an army.

'The foldier only fpeaks of warlike expeditions; the man of bufinefs, the merchant, gives details of manufactures, cargoes, and fhips; the adminiftrator repeats political events, and prefents accounts of management and revenues. The "Relations of India with Europe," without confining itfelf to any of thefe three objects, includes them all, in offering facts, giving opinions, and furnifhing introductory ideas: in pointing out the means of treating, in every ftate of affairs, with the Moors, the Mahrattas, the people of Malabar and Bengal, &c. and forming with thefe nations folid connexions, allowed by equity and humanity; and which, in the letter and fpirit, would be advantageous to both parties.

'Such is the direct and fole aim of this production,—ill-arranged, it is true, but neverthelefs the fruit of more than

forty years of reflection, joined with a knowledge of the territory, and of the languages and opinions of the inhabitants, together with a perusal of all that has been written on the subject, and perhaps a turn of mind calculated for this kind of labour.'

Our author afterwards proceeds to state the reasons which led to the suppression of this work in 1782, by desire of the French minister; and he observes, upon the occasion, that power, like a leprosy, disfigures the best of men; so that even the good and just Malesherbes, when he resigned his office, said, 'I must endeavour to save the half of my reputation.' Duperron tells his countrymen, in a long note, that they are not liked by the opposition in England, nor by the insurgents in Ireland. 'The first have no object in view but parliamentary reform and the expulsion of Pitt the minister, with whom, it is true, the hatred of the French name is hereditary: the second wish to introduce the Roman catholics into the parliament of Ireland. We shall serve as the means, and afterwards the two nations will unite in one mass against us.' This, we believe, is very true, and we rejoice that it is true. Yet there was at one period just apprehension lest the French should have let loose the wild Irish into this country, where, inflamed by animosity, and strangers to the laws of war, they might have renewed the examples that we find in history, of sanguinary and indiscriminating devastation.

We shall now proceed to give the reader a general idea of this work, which is minutely divided and subdivided. The introduction explains the radical causes of the errors which have hitherto prevailed among the European nations in the establishment of colonies in Hindustan, and the necessity of a new system. The first part of this work consists of six articles, as the author thinks proper to style them, all relating to the political interests of India, but sometimes necessarily blended with commercial views. The first article relates to the personal interests which the Indians and Europeans may have in mutual intercourse; the second to the political interests of the Indian nations and princes; the third particularly considers Heyder Alli and Tippoo Saib; the fourth presents a picture of the military operations of the English in Hindustan, from 1756 to 1783. The fifth article discusses the present principles of the English parliament in the administration of Bengal: the next presents a plan of administration for India, subdivided into sections, and accompanied with a *réglement* or statute, which is again divided into eleven articles; so that the author's minute subdivisions only tend, as usual, to introduce confusion; and the common mode of chapters or sections would have been a preferable arrangement, there

being two errors equally inimical to perspicuity,—the one a large, undigested mass, the other an excess of minuteness which oppresses the reader as much as the opposite extreme.

The second part relates to the commerce of India, and is divided into two articles; the first relative to the internal intercourse, the second to the European trade: the first article, however, rather relates to the best situations for European settlements. The second is divided into several sections, and particularly examines whether the trade of India ought to be opened to individuals, or restricted to companies, the author preferring the latter plan. In one of these sections, the author gives an account of the chief publications in the English, Spanish, and French languages, concerning this grand question.

The introduction opens in the following terms.

'Three hundred years of revolutions, of acquisitions, and losses, of prosperity and misfortune, of greatness and humiliation, ought to have taught Europe that she has been deceived with regard to the means proper to invigorate the commerce with India, and to establish, on a solid foundation, the relations which she wishes to form with the people of that country. We have been contented with consulting the passions. The appearance of a considerable gain has produced conquests, and avarice has regulated their progress,' &c.

Duperron then proceeds to affirm, that the example of the colonies established in America, an uncultivated and savage country, has led to errors with regard to the Indian settlements. There is here certainly more imagination than judgment; for the Portuguese settlements in Hindustan, we believe, preceded any regular establishment of the Spaniards in America; and at any rate, the complete difference of circumstances must have impressed the most ignorant reader in the most ignorant period. Yet our author seems to pique himself on discovering, that a colony can only be established with success where the former inhabitants are few and savage, and the land uncultivated. The English never had the most remote idea of forming a *colony* in India; the leading principle was to secure a fortune, and return, as speedily as possible, from a climate inauspicious to the corporeal frame of Europeans. It is therefore a mere waste of words, and confusion of ideas, to speak of our establishments in India as colonies; the various European nations, which have successively held the supremacy in these oriental regions, having aimed at nothing but a superior military establishment, to protect settlements which they always justly considered as temporary, and only calculated for the immediate advances of commerce. The author observes, that India being already occupied by a civi-

lised people, there can be no right, by any law of nature or nations, or even the most feeble principle of loose morality, to pretend to the property of any portion of the country: and the distance being so great, this injustice would, in the end, become a fruitless crime. He therefore asserts, that the sole mode of forming a lasting intercourse with Hindustan, is to appear there as a friendly nation, on principles of mutual advantage; not only the most just and humane method in itself, but enforced by the successive examples of the decline and ruin of every other species of intercourse.

We were not a little surprised to find the French treatise called the Political Testament of Sir Robert Walpole, repeatedly quoted in this work, when it is well known to all Europe that it is an absurd forgery, formally disavowed by the late lord Orford, and esteemed beneath all notice by every writer of common information.

We shall not attempt to follow the author through a long chain of facts and reasonings, many of them particularly trivial, and familiar to the English reader, but shall content ourselves with translating two additional extracts, in order to give a more complete view of the spirit and tendency of this publication.

After explaining the conduct of the Portuguese and Dutch, in the Indian trade, Duperron recapitulates that of the French and the system of Dupleix, and then proceeds to that of the English.

'Let us now examine the management of the English. I leave apart the monopoly on the commodities of the country and on foreign merchandise, exercised in the provinces of Bengal, Bahar, and Orixa, the custom-house dues exacted from other Europeans, and the prohibitions issued against individual merchants, Armenians, Portuguese, strangers of every kind, &c.

'That nation has acquired, or rather usurped, in the two bays of Bengal and Cambay, and on the coast of Coromandel, considerable possessions near its principal establishment. In this respect, the choice is more consonant to reason than that of our former possessions. The four cirkars or districts, yielded by Salabet Zing to the French company, were too distant from Pondicherry, the centre of its strength.

'But the English, in Bengal, have rendered themselves masters of rich countries, where manufactures flourish; they enjoy the revenue of that province, of the province of Bahar, and of the portion of Orixa, which the last nabobs had preserved. Here is an extent of domains which the capital, Calcutta, can no longer protect. Let us observe, in the second place, the consequences to the country itself.

'1. Instead of paying for the merchandise destined for Europe, as they would be obliged to do with the revenue and money of a province without manufactures, the English take these articles under the name of tribute, of revenue, of indemnity, of restitution, &c. at the rate that they please to fix; and contract on credit, with small advances, for what remains in the warehouses, to sell it to other Europeans, who engage to remit the price to them in England. Nevertheless, in order to appease the clamours which an excessive tyranny has raised against them in Europe, they allow the nations established in Bengal to bespeak some articles in the country, where, however, it is hardly permitted that the weavers should work for them. In this way the greater part of the manufactures of Bengal return no money to the province. This is the first cause of the want of coin in the country.

'2. As the revenue of the provinces occupied by the English is considerable, in the view of diminishing the expenses of the company, they no longer draw currency from Europe to pay, or even complete the returns, or to furnish the expenses of protection, of labour, or of administration; nay, little English merchandise is imported; the only means, nevertheless, considering the constraint under which the old native merchants exist, of drawing from their chests the money shut up for fear of the invader:—a second cause of the want of specie in the country.

'3. The English chiefs engage like merchants in all their operations, whether military, administrative, or civil. The colonel, sometimes a foreigner, and of course less anxious in committing the honour of the nation which he serves, makes a bargain with the court of directors to pass three or four years in India at the head of a regiment, whose enterprises are to make his fortune and that of his constituents. He arrives; awakes the avarice of the leading men, in proposing to them to attack such a nabob, or such a rajah, whose treasures, amassed during a long peace, will enrich the company, the factories, and the persons employed in the expedition. Instantly complaints are uttered of affronts and extortions, and the Indian prince is despoiled. The directors, at first, disapprove: they are appeased; they are gained over with lacks of rupees in a present, or as a constant revenue, and the colonel coolly brings back to Europe an immense fortune, the fruits of the commerce of blood, which he went to carry on in India.

'Every individual, from the president of Calcutta, of Madras, of Bombay, to the meanest person employed, from the general to the common soldier, says to himself,—Let us accumulate a fortune in three or four years, and then return to England.—They are armies of insects, sent successively to eat the grass, as soon as it begins to spring again. The money

which exiſted in India thus leaves it, independently of commerce, and returns no more. This forms the third cauſe why coin is wanting in the country.

'4. In fine, by their extortions and taxes, by the deterioration of the qualities of the merchandiſe, by their adminiſtration, or rather a formal denial of juſtice, the Engliſh keep the proprietors at a diſtance; and even the merchants are accuſtomed to come from the north of India to buy Bengal articles, which they pay for in caſh, and to make ſalt at the bottom of the gulf, &c. while, at the ſame time, they have raiſed the value of the gold coin, in order to ſupply its deficiency.—which is a fourth cauſe of the want of ſpecie in Bengal.'

In the next ſection the author attempts to ſhow that the ſcarcity of money, and the repeated attacks on property, ought to produce an inſurrection in the natives. But oppreſſion may be long borne without inſurrection; and the author ſeems to entertain abſurd ideas concerning the military character of the Hindus, though innumerable tranſactions in their hiſtory evince that they are even an effeminate race of men.

Our next extract ſhall be from the concluſion of the work.

'At leaſt, let the paſt inſtruct us what has been the liberty of Indian trade ſo much wanted? A few favourite privateers, one port only, that of Lorrion. Bourdeaux diſputes the right, and reclaims abſolute freedom of trade. The mayor of Lorrion ſupports the rights of his town. Ought objects of this importance to be abandoned to the ſelf-intereſt and avarice of any particular ſpot?

'We may form ſyſtems in our cabinet, and propoſe and defend good, conſidered abſtractedly. It is thus that the œconomiſts, united with the pretended philoſophers, will overturn and deſtroy governments. It muſt at the ſame time be proved, that this abſtract good is adapted to the object. For ſovereigns, whoever they be, are anſwerable for the errors into which they draw their ſubjects, who are incapable of certain diſcuſſions, and who pay ſuperiors appointed to diſcuſs for them.

'To ſpeak in few words, the commerce of India is an inſtrument of fortune dangerous in the hands of him who cannot make uſe of it, chiefly on account of the diſtance and of the quantity of capitals riſked in one armament. Cuſtom, as is well known, is in ſome ſort rendered neceſſary. A part of the articles procured may perhaps be uſeful—the reſt belong entirely to curioſity; but an imperious curioſity, which over-rules ſuch a people as the French.

'If the government find this trade really and eſſentially hurtful to the ſtate, it has the right of abſolute abolition, and may exerciſe this right without injuring liberty. Still more juſtly, and without any injury to freedom, ought it not to

permit this intercourse to exist, but in the precise form alone in which the business may be carried on with safety and honour. Otherwise, we must renounce every notion of justice or injustice in society, of the lawful right of individuals, and the lawful authority of governments.

Experience is the most convincing, and at the same time the most dangerous master in an affair of this complexion. Thus it has shown us factories destroyed; considerable property buried under their ruins; a multitude of men, in want of every thing; a maritime school, the first in Europe, annihilated; legitimate fortunes, acquired with great labour, withdrawn from honest and industrious citizens, and even transferred to our enemies; in fine, the French name rendered contemptible in the eyes of all Asiatic nations. Must such misfortunes alone be capable of teaching us, that the commerce of India cannot be carried on securely, honourably, and constantly, but by a company, with exclusive privileges?

'I add, that by a company (for we must brave prejudices, however predominant, when we wish to speak the truth) I understand a supreme company, but without power, under any pretext, of concerning itself in the affairs of the country, still less of undertaking wars, direct or indirect, all questions concerning such subjects being instantly transferred to Europe.

'It is idle to believe the possibility of separating the commercial part of a country from the government: no European sovereign can bestow upon his officers, military or civil, such high stipends as a commercial company can do. Nevertheless, people do not go to India for change of air. Whence it would follow, that the commerce of a company, which is not sovereign, would be constrained and tyrannised over, and perhaps the trade usurped, by the administration.

'All that go to India, military men, physicians, missionaries, lawyers, men of letters, all are merchants, or become so, as well as the mariner, the man of business, and the agent. The white nabobs of Madras, Calcutta, and Bombay, have taken a higher flight in despoiling the natives of the country. At Pondicherry, at Schandernagor, where we walked with measured steps, every inhabitant sold the little that he had of cotton, cloths, handkerchiefs, muslins, &c.

'On the other hand, if the government named by the European sovereign, and distinguished from the company, have the power of making war of itself, without the positive order of the authority by which it is established, there will be always the same disorder and excess, because, at the distance of six thousand leagues, remote from the observation of the mother country, people become, in order to gain a fortune, merchants of provisions, of stuffs, of imposts, of tributes, of men, and, if the trade bring more, even of human blood.

'It is high time that pretenſions to wit ſhould ceaſe in France, or at leaſt that they ſhould yield to the good ſenſe of our forefathers in matters of adminiſtration, which they certainly ſtudied more than we have done. Are we then hired by our neighbours to dry up all the ſources of national opulence? Let us vary, if we pleaſe, our amuſements. To-day operas, comedies, balloons, parachutes, Martiniſm, Meſmeriſm, convulſioniſm, Caglioſtriſm, theophilanthropiſm: to-morrow conſtitutional clubs, legiſlation, moral dramas, ſermons, and liberty, humanity, uniforms, military exerciſes, &c. &c. but let us renounce for ever famine and blood. Theſe atrocious reſources are not in our character. A Frenchman revolts from them: he is brave; it is the puſillanimous ſoul that is cruel. He is the friend of gaiety; and abandons the country in which the gloomy demagogue always, in the name of liberty, invades or ſtifles the law, and holds in chains the haughty ſpirit that refuſes to bend the knee before him. The rights of man, of whatever condition he may be, are definite; but I would not wiſh them to be engraven on my heart with the point of a bayonet. I aim at being free *freely*, and not in order to avoid capital puniſhment.

'The preſent fanaticiſm, already conſiderably diminiſhed, will ſoon totally ceaſe. The Eaſt-India company will be re-eſtabliſhed in its firſt condition, and abuſes, inſeparable companions of wealth and authority, will again plunge it into thoſe misfortunes which have cauſed its ruin.

'Such is the courſe of human affairs.'

Expériences ſur la Circulation obſervée dans l'Univerſalit du Syſtème Vaſculaire; les Phénomènes de la Circulation languiſſante; les Mouvemens du Sang, indepe͏ndans de l'Action du Cœur; la Pulſation des Artères; par Spallanzani: Ouvrage traduit de l'Italien, avec des Notes, précédé d'une Eſquiſſe de la Vie littéraire de l'Auteur. Par J. Tourdes, M. D. &c. 8vo. Paris. 1800.

Experiments on the Circulation obſerved in the Vaſcular Syſtem; the Phænomena of a languid Circulation; the Motion of the Blood, independent of the Action of the Heart; the Pulſation of the Arteries; by Spallanzani. Tranſlated from the Italian, with Notes, preceded by a ſhort Account of the Author. By J. Tourdes, M. D. Imported by De Boſſe.

IN our laſt volume, p. 203, we noticed the Engliſh tranſlation of ſome of Spallanzani's eſſays, and expreſſed our ſurpriſe that this ſhould have remained unnoticed, a circumſtance which we attributed to the tranſlator's having followed

the French verſion of Sennebier. The ſuſpicion is now perhaps better founded, for M. Tourdes informs us, that the preſent is the only eſſay of Spallanzani which has not appeared in the French language. It is the only work of Spallanzani which we do not poſſeſs in our own.

The 'Experiments' before us, publiſhed at Modena in 1777, under the title of 'De' Fenomene della Circulazione nel Giro univerſale de' Vaſi,' &c. are at this time well known. The author has been guilty of ſome errors, but the great merit of the work, which ſome late phyſiologiſts have overlooked, renders its more general publication highly deſirable. We ſhall take a ſhort notice of it, after examining, what indeed was our principal motive for introducing the preſent tranſlation, the literary life of Spallanzani. The remarks on this ſubject were intended as a part of a more conſiderable work. Carminati deſigned to trace the minuter hiſtory of his private life; Brera undertook to deſcribe the diſeaſe of which he died; and M. Tourdes to analyſe his different works. The diſaſters which attended the army of Italy, at the concluſion of the laſt year, put a ſtop to the deſign; and our author, uncertain whether he ſhould again ſee his illuſtrious coadjutors, has publiſhed his ſhare 'without addition or change.'—'The reader,' he adds, 'will not forget my firſt deſign, nor the title of this eſſay. They are only a few flowers, ſcattered by friendſhip, on the tomb of the celebrated naturaliſt of Pavia. Had I wiſhed to write an eulogium, I ſhould have adopted another plan. Sennebier, who has intimately known him twenty years, is alone the proper perſon to become his hiſtorian.'

Spallanzani died in the ſpring of 1799, having completed his ſeventieth year. He was deſigned for the profeſſion of the law; and, after a claſſical education purſued with no common avidity and ſucceſs, he actually began the ſtudy of juriſprudence, which he ſoon, however, left for the more pleaſing reſearches of philoſophy. At twenty-ſix, he was appointed profeſſor of philoſophy and belles lettres at Rezzio, about nine miles from his native town, Scandiano, at the foot of the Appennines. He here laid the foundation of his future fame.—'By turns a chemiſt, phyſician, phyſiologiſt, philologiſt, and natural philoſopher, we ſhall always find him a profound genius, an able obſerver, a rigorous analyſt, an eloquent writer, and an accompliſhed man.'

Some of the earlieſt compoſitions of Spallanzani are philological. They are to be found in his Letters to Algarotti, publiſhed in the fourteenth volume of the Venice edition. They relate to Homer, and to Salviani's tranſlation, which he thinks often feeble, trifling, and inaccurate. His remarks ſhow that he had ſtudied the Grecian bard with minute attention, and could taſte his beauties with great feeling and preciſion. Theſe letters

are dated in 1761; and in 1762 he publiſhed his 'Deſcription of a Journey over the Mountains (the Appenines), with Obſervations on the Origin of Rivers.' His theory is the modern one of the condenſation of vapours, which no philoſophic author has yet attempted to combat. In 1766 he publiſhed his diſſertation 'De Lapidibus ab Aqua reſilientibus.' The rebounding of ſtones, ſtriking the ſurface of the water obliquely, had been attributed to the elaſticity of that fluid; but our author proves it to be a continuation of the impulſe directed differently by the cavity formed on the ſurface of the water, in conſequence of the firſt impreſſion of the ſtone*.

Though Spallanzani publiſhed at Pavia his firſt eſſays on infuſory animals, the experiments were chiefly made at Rezzio, where he continued ſix years. He then removed to Modena, where he publiſhed, in 1768, his 'Prodromo ſopra le Riproduzioni Animali.' This, as the title informs us, was an introduction to a larger work, which never appeared. It was ſuperſeded, he ſaid, by the valuable labours of Bonnet. The reproduction of the head of a ſnail excited, we remember, at the time, great oppoſition, and he returned to the ſubject in 1784. A memoir appeared in the Verona Tranſactions of 1782 and 1784, entitled 'Reſultati dei Sperienze ſopra la Riproduzione della teſta, nelle lumache terreſtri.' He there defends this experiment, and mentions the authors who have ſupported, as well as thoſe who have combated, his opinion. Among the former are, Turgot, Lavoiſier, Tenon, Heriſſant, Bonnet, Sennebier, Scheffeer, Muller, Roos, and Troile. Among the latter, Murray, Waſtel, Cotte, Bomare, Adanſon, Schroeter, Argenville, and Preſciani—a formidable hoſt! The latter proved, and it is we believe now the general opinion, that Spallanzani did not really cut off the head of the ſnail, but ſome other part.

His next work was publiſhed at Modena in 1768, 'On the Action of the Blood in the Human Body.' It was dedicated to Haller, and combated many of his opinions. It is well known in this country, as well as the oppoſition it excited. Haller alone received it without reſentment; for 'he was the mildeſt, the moſt amiable, and beſt-informed of men.' He propoſed, about the ſame time, to undertake 'a ſeries of experiments on the production of mules in the inſect tribe, in order to elucidate the grand problem of generation.' In the following year he publiſhed a tranſlation of Bonnet's Contemplations of Nature, with numerous and learned notes. Of this work, fifteen editions have already appeared, while, in Engliſh, we

* Theſe diſſertations are re-publiſhed in the Racolta d'Opuſculi Scientifici, tom XIV. The originals are peculiarly ſcarce, and we believe they have appeared in no other language.

believe it never attained the honour of a ſecond impreſſion: ſo correct is M. Cuvier in his eſtimate of the Engliſh literary character.

Pavia, now deſerted and ruined, has only its univerſity to offer to admiring ſtrangers. But even the moſt ſplendid riches of this inſtitution are owing to Spallanzani, though it can boaſt of many eminent characters in medicine and philoſophy. Spallanzani was choſen profeſſor of natural hiſtory, in this univerſity, in the year 1770. It was the ſtudy moſt congenial to his talents: it had been the ſubject of his attention in all his moments of leiſure: he was a natural hiſtorian by choice, the reſt was the effect of neceſſity. His inaugural ſpeech, which is publiſhed, is truly excellent, and its chief ſubject is a compariſon between Buffon and Reaumur. We need ſcarcely doubt that he preferred the latter, though many will controvert his choice. His beſt work, and almoſt his laſt, on leaving Modena, is that before us. It leads his biographer into ſome diſquiſitions reſpecting the practice of medicine; but, while he contends that we have not advanced in the cure of diſeaſes, beyond the practice of the Coan ſage, we muſt on our ſide contend, that he is unacquainted with the ſcience in which he has taken the higheſt degrees. We will aſſert, and are prepared to defend the oppoſite poſition, and to prove that no ſcience has, within the laſt fifty years, made a more rapid progreſs *.

The microſcope has diſcovered new worlds, and Spallanzani employed it dextrouſly †. The Molecules Organiques of Buffon, the firſt rudiments of animation, the component parts of more perfect animals, our author proved to be animals. The 'Opuſculi de Fiſica Animale e Vegetabile' was publiſhed before he retired from Modena in 1776: they are the eſſays tranſlated by Sennebier, and again into Engliſh in the laſt year. Theſe molecules our author proves to be real animals, from their motion, organiſation, nouriſhment, element, and temperature, the acuteneſs of their ſmells, their being influenced by electricity, their requiring atmoſpheric air, their generation, and revival.

The Experiments on Digeſtion were next publiſhed. Theſe were tranſlated into Engliſh in 1784, and were noticed in our LVIIIth volume. They have been ſeverely criticiſed by Mr. J. Hunter in our own country; and, in one part, their op-

* Such kind of declamation is familiar with the French writers, who often ſpeak in this way without reflection: thus, in one of the philological memoirs of the National Inſtitute, the author ſays, that we admire Shakſpeare, but moſt frequently *read* Sophocles!

† His firſt publication on this ſubject is omitted by our author in its chronological order. It is entitled 'Saggio di Oſſervatione Microſcopiche relative al Syſtema della Generatione de' Signori Needham et Buffon;' Modena, 1767.

position to the sexual system of vegetables, by M. Volta of Como. The general objections of our own countryman are shortly replied to in the work before us, and, in reality, are not of striking importance. M. Volta attacked him more pointedly on the latter subject, and contended that he never made the experiments described. To this author, and his objection, which involved not only his philosophical, but his moral character, Spallanzani replied in his Lettera a un Amico di Mantova. We well remember being greatly embarrassed by Spallanzani's assertions, and at least thought that his experiments had not been made with sufficient precautions, or accurately related. The Experiments on Generation were the next in order, and these also have been translated, forming the second volume, published in 1784.

Spallanzani had also the care of the museum, and enriched it with many valuable curiosities. These he was enabled to collect in the course of his numerous and extensive journeys. His first travels were in Italy; and some remarks on the natural history of the objects observed in this tour were published in the Select Tracts at Milan, in 4to. and in Rozier's Journal, 1783, from which, about that time, we extracted an account of them. Two letters to Bonnet, 'Relative a diversi Produzioni Marini, e diversi oggetti Fossili et Montani,' were the fruits of these journeys, and published in 1784 at Verona. In 1779 he traversed a part of Switzerland; in 1781 he coasted the shores of the Mediterranean, from Leghorn to Marseilles; and in 1782 and 1783 he visited Istria, on the shores of the Adriatic, and the Euganean mountains. His principal journey, however, was to Constantinople, and the Grecian islands, in 1785; and his account of it, which received, we believe, his last hand, there is reason to suppose will be published. In his letters, entitled 'Physioal Observations made in the Island of Cythera,' he attributes the desolate state of this island to the ravages of volcanoes. This letter is addressed to the chevalier Lorgna, and published in the Verona Memoirs. He returned through Bulgaria, Wallachia, and Hungary. At Vienna he staid some time, and calumny spread the infamous tale that he purloined some valuable curiosities from the Cabinet of Natural History; but, after a careful examination, he was declared innocent by an imperial edict, and his accuser disgraced.

Three years passed, filled only with the publication of some letters, and we could have wished that his raillery had spared, in these, the respectable Scopoli, who had been rendered ridiculous by a gross imposition. In 1788 he travelled into the two Sicilies, and it is the work upon these travels which we have lately examined in an English dress. It was published in 1792 at Pavia, in six volumes 8vo. Nearly at the same time, in Brugnatelli's collection, appeared his Letter on the Fall of

Stones, which happened the sixth of June at Bologna. He supposes them to have been raised from the earth in a whirlwind, or thrown up by an earthquake, and not the product of volcanoes, as they do not show any marks of having been subjected to heat.

His Experiments on Blind Bats, and his Hypothesis of a new Sense, we have had occasion to notice at some length. As a chemist also, in 1796, he repeated the experiments of Goëtling, who, from phosphorus shining in azotic gas, endeavoured to undermine the pneumatic system. In chemistry, he appears to have been a diligent experimenter, but scarcely to have made any considerable advances. His Treatise on Respiration is in the hands of Venturi, and will probably be soon published. He died the second of February, 1799, of an apoplexy, while engaged in an investigation of the relation between apoplexy and the periodical sleep of cold-blooded animals.

Of the dissertation itself, published so long since, we shall say little. The author endeavours to show, that the heart, in its contraction, does not throw out the whole of its blood. This fluid he has proved circulates with equal velocity in the smallest and largest arteries, and that the various angles or curvatures neither increase nor diminish the motion. Yet its course is not uniform: near the heart, it is alternately propelled and at rest, while these interruptions in the progress of the circulation are less apparent, and in the extreme arteries, vanish. Arteries, he observes, change into veins, in many different ways:—some only change their direction; others are previously involuted;—some anastomose directly; in others, a cellular substance is interposed:—sometimes a single vein rises from many arteries; at others, an artery appears to produce many veins. As the blood approaches the heart, its velocity was found to increase, though scarcely more than one third in the largest, compared with the smallest veins. Contrary to the opinion of Haller, our author has proved, that, when a large vein anastomoses with a small one, the current of the blood from the latter is not retarded, whatever be its angle. In almost every other vessel the motion of the fluids suffers no interruption when anastomosing.

Spallanzani thinks that the motion of the blood depends only on the action of the heart; but his own observations disprove this doctrine, and it is now abandoned. The veins, though in greater number than the arteries, and of a larger diameter, we are told convey the fluids with the same celerity as the arteries, whatever be their length, their diameter, or their distance from the heart, provided the comparison be made with corresponding vessels.

Haller collected the appearances of languid circulation, and speaks of its irregularity, and of the oscillation of the vessels previous to its stopping. Spallanzani thinks these irregularities

owing to Haller's method of obſerving, and the effect of the tortures to which the animal was ſubjected. He found the circulation grew gradually ſlower till it ſtopped, without any interruption or oſcillation. Bellini informed us, that when a vein or artery was opened, the blood ruſhed from above and below to the cavity. This fact Spallanzani has confirmed, but the cauſe is unknown. Haller ſuppoſed it owing to a contraction of the coats of the veſſels, an opinion which Spallanzani in vain endeavours to combat.

Gravity has an effect on the circulation, only in the large, not in the ſmall, veſſels.—The colour of the blood is red: its yellow and whitiſh ſhades are an optical illuſion. The globules, he tells us, ſwim in an inviſible elaſtic fluid, and are almoſt ſpherical, lengthening or flattening according to the diameter of the veſſel. The animals with warm blood have, at a very early period, a larger quantity of globules than thoſe with cold blood; but, as the age of the latter increaſes, the red globules are more numerous; and, in each kind, they are nearly equal in number, proportional to the bulk. In the latter, the circulation can always be obſerved, as the coats of the veſſels are ſo thin; in the former, it can only be ſeen a ſhort time after birth. Animals ſurvive a few days after being deprived of the brain and heart, but die ſooner when deprived of the latter organ than when the former is cut off.

Such are the facts furniſhed by Spallanzani in theſe diſſertations, facts on which, at this time, we need make no remark. M. Tourdes has added a few notes of no great importance.

OCCASIONAL RETROSPECT
OF
FOREIGN LITERATURE.

IT will be obvious that the view of literature and ſcience can never be complete by an examination of the works of one country only; and, for this reaſon, at ſtated periods, our Journal, and thoſe of the moſt reſpectable of our brethren, have always recurred to the works publiſhed on the continent. Yet the narrow limits of an Appendix can ſeldom contain more than a few volumes of the moſt important nature, and many, truly valuable, muſt be omitted, or very ſlightly noticed. Since our Journal has been extended, the publication of three numbers, in one year, has given a greater ſcope to this part of our plan, but we have ſtill found ourſelves compelled to omit an account of works which ought to be known, beyond their own ſphere, and for this reaſon, ſince the firſt alteration in our arrangement, we have given an 'Occaſional Retroſpect of Foreign Literature.' We ſtyled it 'occaſional,' though it has been continued, with few intermiſſions, in each Appendix, and is, in reality, a part of our original plan, perſevered in for many years under the title of Foreign Articles. It was for a time taken, profeſſedly, from the foreign journals; but having, as mentioned in our laſt Appendix, extended our connections, we aſſume a higher tone; and, though we do not deny adopting occaſionally the accounts of the beſt journaliſts, yet we can add, that many of the volumes have been examined by ourſelves. In effect, this part of our work, as it reſpects foreign publications, ſtands on the ſame footing with our Monthly Catalogue. It contains a brief account of ſuch publications as merit only a ſhort character, or which will not properly admit of a full diſcuſſion. Like the Monthly Catalogue, it may be ſometimes doubtful to which part of the number any work ſhould properly belong, and we ought to add, either in the Engliſh or Foreign Literature, no diſreſpect is *intended* by conſigning a publication to one part rather than another. When the deſtructive ravages of war ſhall make communica-

tions more easy and expeditious, the whole extent of our plan will be fully developed: and *then* only can it be justly appreciated.

FRANCE.

Introduction à l'Etude, &c. An Introduction to the Study of Botany, illustrated with six coloured Plates, containing a Discourse on the Connection between Natural Sciences, a complete and comparative Treatise of the Organs of Plants, and their Functions at every Æra of their Life, in which the Botanical Terms are applied and explained; a particular Explanation of the Organs of those Plants, arranged in the Class Cryptogamia; the Principles of the Art of describing Plants according to Linnè; particular Details on the Habitation of Plants, their Virtues, Uses, and Cultivation; the Manner of arranging and preserving them in a Hortus Siccus; an Explanation of the general Methods of Tournefort, Linnè, Jussieu; of the particular Arrangement of the Terms by Smith; of the Mosses, by Hedwig and Bridel; and of the Mushrooms, by Bulliard, with Tables that give this Work the Advantage of a Dictionary, by J. C. Philibert. 3 vols. 8vo. Paris.—We have copied the whole of this title, as it comprehends in itself a table of contents. The character and abilities of the author are well known to us, and he has exerted them very advantageously. This work is styled an Introduction, only because it does not contain the characters of classes, orders, and genera, but it is a complete treatise on the general doctrines of botany, and the physiology of vegetation.

Voyage dans l'Empire de Flore, &c. A Journey to the Empire of Flora, or Elements of Vegetable Natural History; a Work, in which is inserted the Analysis of the Lectures of the learned Author of the Flora Atlantica, par L. M. P. T. 2 vols. 8vo. Paris.—The first part of this work contains the description of a plant, according to the systems of Tournefort, Linnè, and Jussieu; the second, a description of plants, according to their classes, &c. There is some piracy alluded to in this retrospect from Desfontaines, from which 'a Botanist' is anxious to clear himself. In reality, it is copied verbatim from that author's Table of Genera.

Tableau d'Ecole de Botanique, &c. A Table for the Botanical School at Paris, or a general Catalogue of the Plants cultivated there, and arranged in Classes, Orders, &c. according to the System of Jussieu, followed by an alphabetical Table of the vulgar Names of Plants most commonly used in Medicine, &c. by a Botanist. Paris. 8vo. 1800.—The author of this Catalogue tells us that he had no share in the plagiarism committed lately, to the injury of Desfontaines. His object is to comply with the request of many of his students,

and to communicate to them the various advantages which he has himself reaped from the Catalogue before us.

Manuel Tabacal, &c. A Treatise on Tobacco, and the different sternutatory Plants, by J. Buchoz.—We have already spoken of M. Buchoz, of his labours and his talents. The present work contains a dissertation on tobacco, its different species, cultivation, and gathering, the manner of preparing it, with its useful and injurious properties. A list of other plants, which may be used as sternutatories, in Latin and French, is subjoined.

Année du Jardinage, &c. Calendar of Gardening, consisting of Extracts from the best Writers on this Subject, both ancient and modern, by J. F. Bastien, Editor of La nouvelle Maison Rustique. 8vo. 2 vols. Paris.—We had intended to have enlarged on these volumes, and to have contrasted the directions with what experience has taught the English gardener; but we found the detail would be long, and not altogether interesting. We shall therefore confine our account within more narrow limits, and, in general, recommend these volumes as deserving attention. The advice, however, must be taken, in England, with many exceptions, and the reader will find various directions detailed with great parade which the most common English gardener is well acquainted with. Some variation also will be observed from what is useful in these latitudes, from the difference of seasons; above all, the prognostics of the weather will seldom be found to agree with those signs which experience in these islands has established as most certain. Yet we think the English gardener may read this Annus Hortensis with interest, often with advantage.

Tableau d'Histoire Naturelle, &c. Table of Natural History, or a Sketch of the most useful Productions of the three Natural Kingdoms. To which is added a Table of Contents, with the most material Terms in French and English, by M. de Montaigu. 12mo. Paris.—This little descriptive catalogue of natural productions is designed for the use of schools, but we fear it is too technical to be interesting to the younger scholars. To those, however, who are farther advanced, or whose curiosity is more ardent, it may be useful. Though far from correct, in many of the views given on different subjects, we see no very striking or material errors. In the glossary subjoined, the English explanations leave the student as much in the dark as the French words. *Realgar* and *tinkal*, for instance, have no other appellations in the English column. Many similar imperfections occur.

Amour des Plantes, &c. The Loves of the Plants, a Poem in four Cantos, followed by Notes, and a Dialogue on Poetry, translated from the English of Darwin, by J. P. F. Deleuze.

12mo. Paris.—We mention this work as a tribute to Dr. Darwin's fame, and on account of the notes of M. Deleuze. These are ingenious and interesting: they relate to the different plants of which the author speaks, on their parts of fructification and re-production. The translation is elegant, and, in general, correct; but, in a few instances, M. Deleuze seems not to have caught the full meaning of the author.

Zoögraphie des diverses Régions, &c. Zoögraphy of different Countries, both of the Old and New World, with an Atlas. By L. F. Jauffret, Member of a variety of Philosophical and Literary Societies. Paris. 1800.—This work is designed for the instruction of the younger students; and the atlas which accompanies it, like that of Zimmermann, in his Specimen Zoölogiæ Geographicæ, contains the figures of the animals on the spots which they inhabit. It contains also an abridgement of the natural history of the mammalia and birds of each region, with a short account of the geography of their native countries, and is, on the whole, one of the completest and best executed works of this kind that we have seen. It well deserves a translation.

Philosophie Entomologique, &c. Entomologic Philosophy. By F. St. Amand. A Work containing the necessary Information to commence the Study of Insects, and the natural Relations of these little Animals with other organised Beings; followed by an Explanation of the Systems of Geoffroy, Linnæus, and Fabricius. Villiers. 8vo. Paris.—The title is so full that it leaves us little to add, except that the descriptions appear to us to be clear, and the work well adapted to its professed purpose.

Histoire Naturelle des Salamandres de France, &c. The Natural History of the Salamanders of France, preceded by a methodical Table of the other indigenous Reptiles, with six coloured Plates. By P. A. Latreille. 8vo. Paris. 1800. —In the year 1797, the author presented to the National Institute, of which he was an associate, a Memoir on the Salamanders of France. It was graciously received, and ordered to be printed with the 'memoirs of learned foreigners.' He has since pursued the inquiry, and the present work contains his farther investigations. In the first part, from p. xi to xlvii, he enumerates the other indigenous reptiles, following the divisions of Brogniart. In the second part, he considers the salamanders, mentioning the authors who have treated upon this subject, and noticing the uncertainties in their nomenclature. He then gives a complete view of their œconomy in every respect, and finishes this part of his work by remarks on the different sexes of salamanders, their vocal organs, and their properties.

The methodical table of the ſalamanders of France follows, in French and Latin. This is terminated by a deſcription of the ſpecies, which are ſeven in number, and each is repreſented in a coloured plate, except the two laſt, which are delineated plain.

Eſſai ſur le Perfectionnement, &c. Eſſay on the Means of perfecting the Chemical Arts in France. By M. C. of the National Inſtitute, and Counſellor of State. Paris. 1800.—M. Chaptal poſſeſſes every neceſſary quality to render him a competent judge of the methods required to bring the chemical arts to perfection, and to this knowledge he adds accurate as well as extenſive views. The firſt method conſiſts in forming enlightened manufacturers; and, for this purpoſe, he recommends the eſtabliſhment of various ſchools for inſtruction in the different arts. The ſecond is confined to rendering the manufactures cheaper, and the third relates to the choice of ſuitable ſituations for different manufactures. Theſe methods are explained at length, with equal judgement and preciſion.

Traité complet d'Anatomie, &c. A complete Treatiſe of Anatomy; or, a Deſcription of the different parts of the Human Body. By A. Boyer, Profeſſor of Anatomy and Surgery at Paris. 3 vols. 8vo. Paris.—In a curious inveſtigating age, anatomy muſt be conſtantly progreſſive; and, if the general outline has been completely aſcertained, minute variations will always furniſh employment to the diligent inquirer. New treatiſes will therefore be often required by thoſe who wiſh to poſſeſs the whole, without occaſionally recurring to different collections, and we have not ſeen any work more complete than this before us, ſo far (for it is not yet concluded) as it extends. The fourth volume is in the preſs.

Obſervations rares, &c. Uncommon Obſervations in Medicine, Anatomy, and Surgery; tranſlated from the Latin of Vander Weil. By M. Planque. 2 vols. 12mo.—Vander Weil's 'Obſervationes rariores' are well known: it is one of thoſe collections of uncommon caſes which may be truſted with tolerable ſafety. The obſervations on hydrophobia merits particular attention, as the author mentions two plans, lately revived, without due acknowledgement.—The one is waſhing the wounds with water or wine, warm, mixed with ſalt, and cauteriſing them with a red hot iron; the other putting a tight ligature above the wound.

Recherches ſur l'Influence de l'Air, &c. Inquiries into the Influence of the Air on the Appearance, Characters, and Treatment of Diſeaſes. By A. Bouffey. 8vo.—This is the firſt volume only of an apparently extenſive work. In this, the author offers ſome obſervations on meteorology, and inculcates the neceſſity of obſerving the changes of the atmoſphere. He notices the defects of theſe obſervations, and points out the method by which they may be rendered more uſeful in medi-

cine. He then proceeds to the consideration of the air, whose natural and chemical properties, as well as its action on the animal œconomy, are examined. In the second volume the author purposes to treat particularly of the different constitutions admitted by Hippocrates; and, in the third, to consider the air as charged with a larger proportion of heterogeneous substances, and thence becoming deleterious. We are well pleased with the author's first volume, and shall notice the successive ones as they appear.

Mémoires de la Médicine pratique, &c. Memoirs of the Practice of Medicine on the Climate and Diseases of Mantouan; on the Bark, the frequent Cause of chronic Diarrhœas in Young Soldiers, and on the present Epidemic at Nice. By F. E. Foderé. Large 8vo. Paris.—This is the same author whose treatise on temperaments we have already noticed. The present volume contains seven memoirs, the two first treating of the climate, the constitution, and diseases of Mantouan; the third of continual fevers; the fourth of malignant intermittents and remittents; the fifth of the circumstances in which the bark is useful or injurious; the sixth and seventh on the chronic diarrhœas mentioned in the title, and on the present epidemic at Nice. We find nothing in these essays peculiarly interesting, or which requires us to enlarge on them.

Histoire de la Fievre, &c. The History of the Fever which was epidemic at Grénoble at the end of 1799 and beginning of 1800. By M. Trouset, M. D. 8vo. Grénoble—This is a short account of a fatal fever, of the putrid kind, which lately prevailed at Grénoble. The description is clear, and the treatment, on the whole, judicious, though occasionally trifling medicines seem to have been too much confided in. It is printed by the order of the central administration of the depratment.

De la Peste, &c.—On the Plague, or memorable Epochs of this scourge, and the Means of Prevention. By J.P. Papon, formerly Historiographer of Provence.—The expedition to Egypt has directed the attention of the French to the plague. This compilation is one of the fruits of their anxiety to guard against this destructive scourge. The present author, who does not seem to be a practitioner of physic, has described the most remarkable æras of the disease, the means of preservation, the management of lazarettos, &c. We perceive in it nothing new or peculiarly interesting.

Traité du Goître et du Crêtinism, &c. A Treatise on the Goitre and Cretinism, preceded by a Discourse on the Influence of a humid Atmosphere on the Human Understanding. By F. E. Foderé, formerly Physician of the Civil and Military Hospitals, and Professor of Chemistry in the Central School of Nice. 8vo. Paris. 1800.—The goitre is known to be a swelled throat, and cretinism is idiotcy—a depraved, degenerated understanding. Our author tells us it is derived from

chrétien, christian, as if these unfortunate beings were Christians, emphatically, as incapable of committing sin.

Of the goitre, the author considers the humidity of the air as the remote cause, and an obstruction of the mucous ducts of the thyroid gland as the proximate. In the second section he describes cretinism in different degrees, and speaks of its being hereditary, propagated in general from the father, rather than the mother. In the third section he proves that the disease, like the goitre, is owing to the humidity of the air, and, from the natural history of the valley of Aoste, where cretinism is most frequent, proves that the air there is peculiarly moist. It is a shocking consideration that, in this valley, in 1792, there were 1740 complete cretins, independent of those which were so in different and slighter degrees. This number occurred in a population of little more than 68,000 souls. It is pleasing, however, to reflect that this humiliating scourge of the human race is lessening, and the means of lessening it still farther are pointed out by our author. These are, by every method, to render the country dryer, and to give greater firmness, by diet, medicines, and manner of life, to the constitution.

Principes Naturels, &c. Natural Principles; or general and particular Ideas of the Immensity of the Extent of the Heavenly Bodies, of the Principles of Motion, and of the secondary Forces applicable to Medicine. By M. C. F. Lejoyand. 5 vols. 8vo.—The author laid the plan of this work so long ago as 1779, and convinced himself of the necessity of an universal directing force, from which no one is exempt, and which would at least afford 'a glance into the work-shop where Nature performs her vast operations.'

M. Lejoyand begins by examining the principles of Des Cartes, Newton, Leibnitz, and Paracelsus, whom he calls an 'incomparable fool;' but to whom he approaches much more nearly than he is aware, and of whom he seems to know little more than the name. The principal object in this part of the volume is to 'overturn the statue of Newton, to give to Des Cartes the sceptre of philosophy, and to bring the elements of every science to the simple light of nature.' This simple light of nature has already produced some strange discoveries which we shall not notice, for this reason, that, with all our attention, we are unable to comprehend them. It now adds others, particularly in medicine, viz. that bleeding, emetics, and mercury, are all injurious, adding, with the cant of a pupil of Rousseau, that, in the best hands, medicine is only a conjectural art. If these volumes have any real object, it is to bring again into fashion the quackeries of Mesmer. The 'universal directing force' can have no other end.

Œuvres diverses concernant les Arts, &c. Miscellaneous Treatises on Arts and Sciences. By J. B. Jamelin. 8vo. Paris.

—This is the firſt number of a new philoſophical journal, which is to be followed by others in ſucceſſion. It contains firſt a theory of the motion of rotation, and its application to the motion of the gig; ſecondly, an opinion on animal magnetiſm; thirdly, ſome hints on rendering forges more perfect; fourthly, a proſpectus of a plan of education wholly new, from the age of three to that of ten years.—This number is terminated by the deſcription of the threſhing machine invented in England, and an explanation of the plates.

Mémoire, &c. Memoir on the Culture, the Commerce, and the Uſe of the Hemp and Flax of France for the Marine and the Arts, by Rougier Labergerie. 8vo.—Almoſt all the hemp conſumed in the naval arſenals of France is brought from foreign countries; but our author denies that the hemp of France is inferior even to that of Riga. He contends that it is in general equally long, particularly the hemps of Girondé, Charenté, Bourges, of the Limagne, and the Iſere. Hemp, however, of about a metre in its mean length, will make a ſail-cloth fine, ſupple, and elaſtic. The memoir contains many details intereſting to the cultivators, but the plan muſt be ultimately appreciated by the naval board.

Mémoires ſur les Puiſſances des Nombres, &c. Memoirs on the Powers of Numbers and their Roots, proving that there are no imaginary Quantities. By M. Develey. 8vo. Paris and Lauſanne.—Our author in this little pamphlet calls poſitive, *direct* quantities, and negative, *inverſe*. His great object is to prove, that every direct number has two ſquares, the one direct, and the other inverſe. Every inverſe number has alſo two ſquares, one inverſe, the other direct. In this, however, he only changes common language. We know that + 6 or — 6 may be raiſed to any power, and that the number is ſtill minus.

With reſpect to the true reſults to which the calculation of imaginary quantities will lead, they are obtained, he ſays, either by compenſations of errors, or a compariſon of equations equally falſe, and of this he gives ſome ſtriking examples. He adds, that, if imaginary quantities have no exiſtence, they cannot be employed as logarithms to any numbers, nor have their own logarithms;—in other words, every direct number has one logarithm only, and the logarithms of inverſe numbers are neceſſarily the ſame as direct ones.

Choix d'Amuſemens, &c. Selection of Amuſements, phyſical and mathematical; deſigned to exerciſe agreeably the Mind of Youth. By M. L. Deſpiau, formerly Profeſſor of Mathematics and Phyſics. 2 vols. 12mo. Paris.—We have been much pleaſed with this little *mélange*, which in its plan and execution reſembles Hooper's Rational Recreations. The tricks are well choſen and clearly explained, and they comprehend

the various branches of philosophy and mathematics, thus giving a readiness in performing arithmetical operations, and a clearer view of many of the operations of nature, under the guise of amusements.

Instruction sur les Mésures et Poids nouveaux, &c. Comparison of the new Weights and Measures with the old Weights and Measures, by which the Relations between them are easily known. Paris. 1800.—This is a very useful work for the French; and, when peace arrives, an acquaintance with it will be necessary for the English merchants who trade with France. A short account is prefixed of the foundation of the measures in the metre, the arc or area, the libre, and the gramme. From these elements the multiples proceed in the easiest manner by decimal arithmetic, and the advantage of this method is obvious; but for a time it will be necessary to show the relation between these measures and the old pound, foot, pint, minute, &c. This is done in the work before us with great exactness, so that from any quantity given in old measures its value in the new measures may easily be found, and vice versâ.

Méthodes Analytiques, &c. Analytic Methods for determining an Arc of the Meridian. By J. B. J. de l'Ambre, Member of the National Institute, &c. Preceded by a Memoir on the same Subject, by A. M. Legendre. 4to. Paris—Before the National Institute are enabled to publish the details of the measure of 9° 40′ of the meridian, which traverse the whole of France and a part of Spain, an operation of vast extent executed with singular precision, two of its members have published methods for completing this immense work, which will be received with gratitude by mathematicians and astronomers.

M. Legendre's memoir is purely geometrical. Its objects are to explain; 1. the manner of calculating triangles, which make the terrestrial part of the operation; 2. the most advantageous methods of calculating the arc of the meridian; 3. the manner of comparing these terrestrial arcs with the celestial, which they subtend, and which are accurately known by observations of latitude; 4. the deducing from thence the quadrant of the terrestrial meridian, supposing the earth elliptical.

M. de Lambre's memoir, which we cannot abridge, is a work hitherto much wanted by geometers who are employed in questions relating to the measurement of the earth, as well as to those who practise mensuration to any extent over its surface. He describes all his methods, whether by observation or calculation, and explains them very clearly, appearing on the whole equally skilful in calculation and in practice. At the end of the volume are some excellent observations by Legendre, terminated by a beautiful theorem, which serves to bring the solution of a spherical triangle to that of a rectilineal

one. The former muſt have two of its angles very acute, and the other very obtuſe, but the length of the ſides may be of any extent.

Eſſai ſur le Genre d'Inſtruction, &c. An Eſſay on the Kind of Inſtruction moſt analogous to the Deſtination of Women. By Antoinette Legroing, De la Maiſon neuve. 18mo. Paris.—This lady has already publiſhed an heroic romance, entitled 'Zenobia, Queen of Armenia,' of which we remember a favourable character. Her preſent work is of a different kind; but her plan is directed with ſenſibility, taſte, and judgement. Her language is a little too flowery; but this is the fault of her nation and of faſhion. We ſhall extract, as a ſpecimen, her definition of happineſs.

'Happineſs is not a tree which can draw its aliment from the ſoil without labour. It is rather a ſtar, the ſweet influence of whoſe radiance we can only feel when reflected from the hearts of all who ſurround us. We muſt thus love and adore that wiſe diſpenſation of Providence, which permits us only to be happy in conſequence of the good we do to others.'

Coup d'Œil Politique, &c. A Political Glance at Europe towards the End of the Eighteenth Century. By S. B. 2 vols. 8vo. Paris.—The author premiſes ſome conſiderations reſpecting France, before and after the revolution, with a particular examination of the conduct of Auſtria and England, conſidered as the cauſe of the war. For the review of this part of the work we muſt refer him to Mr. Marſh.—His political glance is both a haſty and an inaccurate one.

Examen politique ſur les Emigrés, &c. A political Diſquiſition reſpecting the Emigrants, in which it is ſhown that their Proſcription is unjuſt, that a ſolid Peace cannot be made without an Amneſty in their Favour, and that their Reſtoration would be politic. 8vo. Paris.—We are glad to ſee the cauſe of this unfortunate claſs ſo boldly and ſo ably argued. The author adds, that, in caſe of their reſtoration, their property ſhould be reſtored, and thoſe who bought it indemnified at the public expenſe. The arguments in oppoſition will probably be more powerful, becauſe more weighty.

Précis des Evénemens Militaires, &c. An Abſtract of Military Events. By General M. Dumas. Nº X.—We have mentioned more than once this collection, but we are induced to take particular notice of this number, as it relates to the events of laſt year, the hinge on which the reverſe of fortune of the Auſtrians turned. The author ſpeaks of the checks received by Suwarrow in Switzerland, and juſtifies the archduke for his conduct in that reſpect. The latter could not ſupport the Ruſſian general, for he was neceſſarily obliged to return to Italy, to preſerve the important fortreſs of Philipsbourg.

and to cover Swabia and the Voralberg from the threatened incursions of the French. The eagerness of Austria to enjoy its first success in Italy, and to complete the conquest of that country, led her to neglect, in this author's opinion, the only means of preserving it, the possession of the summits of the Alps. The Austrians, however, in pursuit of their favourite object, left the archduke to keep Massena in check, and pushed forward to Piedmont. General Dumas, after the siege and conquest of Coni, follows Championet to Genoa, whose advantage to France he clearly points out, and describes the battles fought to gain or to preserve it. This journal will, we apprehend, be delayed for a short time, as the author is called to active service.

Catalogue d'une Collection, &c. A Catalogue of a Collection of Impressions in Sulphur of Greek and Roman Medals. 8vo. Paris.—The object of the editor, M. Mionet, is to render this collection sufficiently numerous, to accustom the young medallist to types and legends of every kind, without burthening him with too frequent repetitions, differing only by some slight variation of monograms or symbols.

The present collection forms the base of an extensive inquiry: it already consists of 1500, and the author purposes to increase it to 10 or 12,000. The impressions are already made in such a manner, as to imitate medals very perfectly. It will be of the greatest use in schools, &c. where history and antiquities are taught, and of no less use to artists, from the excellent execution of the figures, and the mythological symbols and dresses.

The catalogue is arranged after the system of Eckel, in his Doctrina Nummorum Veterum, which we have noticed at length. In other words, the provinces are arranged according to their geographical situation, and the cities of each province are placed alphabetically. Each medal is numbered, to prevent errors in the choice. One hundred chosen impressions cost thirty francs; but the collection, complete, is sold more reasonably.

Idylles de Theocrite, &c. The Idyllia of Theocritus translated into French, with remarks by J. L. Geoffroy, formerly Professor of Eloquence in the College of Mazarin. 8vo. Paris.—This translation may be said to be well executed, if the measured and polished prose could convey any idea of the simple rural Doric, or if a modern Parisian belle could imitate a simple nymph of Arcadia: 'nil fuit unquam tam dispar;' and Theocritus would blush at the profusion of meretricious ornaments brought to decorate his unaffected, unassuming muse.

The author's preliminary discourse is equally to be reprobated.

We were particularly disgusted with his treatment of the simply-pleasing Fontenelle, who was undoubtedly unacquainted with rural scenes and objects, but whose modest diffidence never merited abuse. We were displeased also with numerous errors and omissions in his History of Rural Poetry. He has totally forgotten the Admetus of Boccacio, overlooked Sanazarius and Vida, as well as the beautiful description of the scenery of the Bay of Naples, in the Mergellina of Capaccio, with many others. We had prepared a short imitation of his manner in a translation from his translation; but we were disgusted with our work; and, as we are unwilling to impart this disgust to our readers, shall suppress it.

Eclogues de Virgile, &c. The Eclogues of Virgil, translated into French verse, with the Latin text, accompanied with the translation of many pieces of Theocritus, Moschus, and Bion; and the Episode of Nisus and Euryalus. By P. F. Tissot, sen. 8vo. Paris.—It is singular, that the French have not a good translation of the Eclogues of Virgil; for that of Gresset is rather an imitation than a translation. The present does not fully answer our expectations: it is unusually tame and prosaic. But M. Tissot's notes show that, if he have not expressed all the beauties of Virgil, he has felt them.

Observations Critiques, &c. Critical Observations on Volney's Lessons of History, by E. C. Jondot. 8vo. Paris.—Volney appears chiefly as the vehicle to introduce our author's reflexions on the moral and political uses of history, which are accompanied with notes, sometimes trifling, sometimes interesting and instructive. We shall give some idea of this author's manner.

Among other things, he observes that gymnosophists were never great philosophers, and that wisdom could never go naked on the earth.—'Ought they,' he adds, 'to be considered as sages, because Calanus burnt himself, in the presence of Alexander and the whole Macedonian army; because Zarmonochegas, embassador to Augustus from the king of India, offered a similar spectacle to the emperor and the Roman people? These are two acts of vanity, or rather of folly. Hercules never mounted the funeral pile till excess of grief had destroyed his reason.'

Notice Historique de Marbot. An Historical Account of Marbot, General of Division, who died at Genoa in the Spring of 1800; by A. Rousselin.—This author has already written the lives of Hoche and Cherin. Marbot seems superior to both; for he was an humane, good man. He fought under Dagobert, Dugommier, and Moncey; and, almost alone, opposed the decree, in the army of the Pyrénées, for granting no quarter.

It was proposed to sentence those emigrants to death who

had returned. Marbot observed,—'The emigrants who have returned have acted according to their profession: those ought to suffer, who, abusing their credulity, have recalled them. The greatness of the nation no longer requires the sacrifice of death.'

Notice Historique, &c. An Historical Account of the Life and Writings of J. E. Montucla. By A. S. Leblond. 8vo. Paris.—This is a short account, comprised in twenty-four pages, of the life of an author, whose valuable history of Mathematics we noticed in our last Appendix. Montucla was an excellent classical scholar, and the author has studiously pointed out the influence this had on his other studies.

GERMANY.

Abriss der Naturlehre, &c. A View of the Physiology of the Human Body, calculated for the use of the lower as well as the higher Schools; containing whatever deserves to be known respecting the Structure and Functions of the Human Body, as well as the Means of preserving it. By C. W. G. Lehmann, Deputy Rector of the Martinian School at Halberstadt. 8vo. with Plates. Leipzig. 1799.—To furnish juvenile readers with a work from which they may learn the complicated and admirable structure of their organic system; to impress them with a due and lasting reverence for its Maker; and strongly to inculcate the moral obligation of preserving that curious fabric;—such were the ideas which induced the judicious author of the present volume to undertake its compilation. It is with peculiar pleasure we can bear testimony to the honourable execution of the plan; as, in our opinion, a publication of this nature has long been a great desideratum. Hence we do not hesitate to recommend it seriously to the perusal of every person who understands the German language, and is entrusted with the education of youth. We also think that a speedy and correct translation of this excellent school-book would, in a great measure, contribute to banish absurd prejudices and superstitious notions, which but too early fetter the juvenile mind, and check its progress in rational improvement.

Katechismus der Natürlichen Religion, &c. A Catechism of Natural Religion, designed for Youth in the Country. Containing preparatory Instructions to understand the Socratico-practical Method of teaching Religion, lately published by F. C. Widermann, Chaplain at Regelsbrun in Lower Austria. 8vo. Vienna.—A valuable little publication, by a Roman-catholic clergyman, who treats, in thirteen dialogues, of the form, situation, and constitution of the human body; of the soul, and its operations; of a more accurate knowledge

of an uncreated Being, and other topics of equal importance. The author attempts to prove that natural religion ſtands in need of an expreſs revelation, to make us more perfectly acquainted with the Deity, his attributes, and the moſt acceptable mode of worſhipping him, as well as with every thing elſe relating to this ſubject which it is our duty to believe or perform. The whole is written in a plain and popular ſtyle, which however abounds in provincialiſms, offenſive to the ear of high Germans. M. Widermann appears to be a ſenſible and enlightened prieſt, who poſſeſſes but little of that meddling and odious ſpirit of proſelytiſm *, ſo conſpicuous in our Gallic emigrants, and the Roman clergy in general. We are amply confirmed in our opinion by the following excellent and characteriſtic paſſage, extracted from 'Nonnotte's Philoſophical Dictionary of Religion,' with which the author concludes this uſeful little treatiſe. :—'The people poſſeſs the catechiſm, and are guided by the voice of its teachers. Nothing more is neceſſary to keep men innocent, and fit them for ſociety. In it they are taught all their religious and moral duties. The philoſophers of every country ſhould be ſeriouſly intreated to compoſe books which might be as uſeful to mankind as a *good* catechiſm: the voice of a teacher would then analyſe and explain the doctrines thus privately enforced, ſupport them with arguments, and adapt the proofs to the capacities of the pupil. Every other means would then become either uſeleſs, too difficult, or altogether impracticable, conſequently unneceſſary.'

Handbuch der praktiſchen Landwirthſchaft, &c. A Manual of the Practice of Rural Œconomy. By C. A. H. Boſe. Vol. III. containing Horticulture, the Arts of Fiſhing, managing Bees, and Silk-worms. Vol. II. containing the Arts of cultivating and converting Wood to uſeful Purpoſes, as well as the Rules of Game-keeping and Hunting in general. 8vo. Leipzig.—With theſe two volumes the author concludes his uſeful work, which is well calculated to ſerve as a domeſtic encyclopædia, comprehending whatever is of practical importance, eſpecially in rural and retired life. The firſt and ſecond volumes appeared, reſpectively, in 1797 and 1798. For the information of our hortular readers, we ſhall obſerve that M. Boſe, as well as the royal chief gardener at Sans-ſouci, near Potſdam, have rejected Dr. Fauſt's method

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* We allude to the common report, that the French emigrant prieſts have already *converted more than two thouſand ſervant-girls* to the principles of the Roman-catholic religion. If this be true, the public ought to be on their guard againſt admitting ſuch fanatics into their families, where, in the capacity of teachers or viſiters, they may do infinite miſchief, by corrupting the ſuſceptible minds of youth, and filling them with ſuperſtition and myſticiſm.

of planting the ſeeds of apples and pears, along with the fruit, becauſe it has been found that ſuch ſeed readily grew mouldy and become unfit for vegetation, if they are ſuffered to remain within their firm capſules, the texture of which is not unlike parchment. Another remark will not prove unacceptable to the amateur of orchards, as it relates to the fertiliſation of trees in general, and eſpecially of the plum-tree. If young fruit-trees have for ſome time been placed on a meadow-ſoil, and do not appear to thrive, it is highly conducive to their growth to cover the ſurface around them, as far as their roots may extend, with the refuſe of flax,—a ſpecies of cleanly manure, which undergoes a very ſlow decompoſition; while the graſs beneath, together with its roots, is gradually deſtroyed: by this means the earth is rendered mellow, and the fertility of the trees uncommonly promoted.

Religion, eine Angelegenheit des Menſchen. Religion conſidered as a Concern of Man. By J. J. Spalding. 8vo. Berlin.—M. Spalding is a learned divine and popular preacher at Berlin, who has lately diſtinguiſhed himſelf by ſeveral excellent treatiſes on theological ſubjects, addreſſed to the Jewiſh elders of that city. In the preſent work he endeavours, and not without ſucceſs, to aſcertain the intimate connexion between religion and morality; to refute the objections made, and daily making, by modern divines, againſt this natural connexion, by ſeparating matters of faith from thoſe of pure ethics; to point out the cauſes which have contributed to weaken the reſpect due to religion in general, as well as to its profeſſors; and, laſtly, to eſtabliſh certain maxims, by which the ſceptical reader may be guided in the cultivation and proſecution of ſo important a concern.

Verſuch über die Harmonie der Gebäude zu den Landſchaften. An Eſſay on the Harmony of Buildings, correſponding with the Landſcape. By J. G. Klinſki. Folio; with Plates. Dreſden.—In a modeſt preface, the author informs us that he was induced to publiſh theſe ideal deſigns, with a view of aſſiſting both the amateur and inexperienced hortular architect. His principal object was to combine nature with art, in ſuch a manner, that the eye may be gratified, while the mind is engaged in the contemplation of ſymmetrical beauty. We do not remember to have ſeen any ſimilar production, which, in an equal degree, evinces a refined taſte and a mature judgement.

Blanda von Carranzo, oder die Liebe ein Abgrund. Blanda de Carranzo; or, Love is an Abyſs. A Tragedy by J. E. L. Paulmann, Commiſſary-counſellor to the Duke of Brunſwick, &c. 8vo. Berlin.—Although we have met, in this dramatic performance, with many of our old acquaintances, paſſages, we mean, obviouſly extracted from Horace and

other ancient claſſics, but more eſpecially from the German tragedies, entitled, Julius of Tarentum, Blanka. Cecilia, Guido, Aſpermonte, The Prince, The Archbiſhop, &c. yet we cannot deny M. Paulmann the merit of conſiderable originality. The phraſes and ideas of other writers he has introduced with much ſkill and happy appropriation; and, we confeſs, we have been much more gratified with this performance than with the whining and ſentimental *cant* of Kotzebue, or the more manly, though frequently infuriated ſtyle, of Schiller.

Sammlung einiger Predigten, &c. A Collection of Sermons delivered on particular Occaſions, and compoſed from ſelect Texts. By C. G. Glörfeld. Vol. II. 8vo. Berlin.—In theſe excellent diſcourſes the author diſplays much practical knowledge of his bible, and an indiſputable zeal for the welfare and happineſs of his flock. His manner of writing is uncommonly plain, without partaking of any of the vulgariſms with which ſuch kind of ſtyle too often diſgraces the pulpit. He alſo frequently aims at explaining obſcure paſſages of ſcripture, in which he generally and happily ſucceeds, aided as he is by a liberal mode of thinking and well-imbibed ſources of hiſtorical information. On the whole, however, theſe ſermons would be found much too diffuſe for an Engliſh audience; though we are of opinion that, on account of their grave and paraphraſtic ſtyle, they are excellently ſuited to the more phlegmatic temper of our northern neighbours.

Quinti Horatii Flacci Opera. Ad Exemplar Bentleii recudenda curavit, Argumentis præmiſſis, Notis Criticis adjectis, Vita Auctoris enarrata, Indicibusque et Verborum et Rerum, illuſtravit Joan. Chriſtian. Fridericus Wetzel. Phil. Doct. Lycei Primislavienſis Rector. 1799. Tomus primus. Tomus alter, quo continetur Vita Poëtæ, Hiſtoria Romana per ejus Vitam deducta, Indicesque et Nominum et Verborum. 8vo. Liebnitz.—We have purpoſely inſerted this pompous and promiſing title at full length, in order to caution our readers againſt expecting any material improvements on the valuable edition of Horace, by our learned countryman Bentley. And as Germany cannot boaſt, and is not likely to boaſt, of a better edition than we already poſſeſs, M. Wetzel's apology, made in the dedication addreſſed to his venerable friend Maſſow, cannot, in this country, be accepted as ſatisfactory; for, from the general eſtimation attached to the Roman bard among ourſelves, the public ought never to be told, that, from the labour beſtowed on re-editing him, they muſt expect only 'cœnam tumultaria opera paratam;'—nay, we think them entitled to a 'ſympoſium.'

P. Ovidii Naſonis Opera omnia è Recenſione Burmanni;

curavit Indicesque Rerum et Verborum Philologicos adjecit Chr. Guil. Mitscherlich. Tom. II. 8vo. Göttingen.—In the present volume the learned editor has comprised the five last books of Ovid's Metamorphoses, the Fasti, the Libri Tristium, the Epistolæ ex Ponto, the Ibis, and a few fragments. We have only to express our satisfaction at this correct edition of this elegant classic; and to add our sincere wishes, that M. Mitscherlich may soon favour us with the promised 'Clavis' to this work, which will then claim the attention of every scholar, as it already deserves a place in a classical library, on account of its typographical excellence.

Familiengemälde und Erzählungen für die Jugend. Family Pictures and Narratives, addressed to Youth. By J. Glatz, Tutor in the Institution for educating Youth at Schnepfenthal. Two volumes, 8vo. Gotha.—The difficulty of writing books appropriated to the different ages and capacities of children has been often and sensibly felt by many judicious authors, who have failed in the attempt. Among the modern Germans, however, we meet with several successful candidates for the important office of instructing youth by miscellaneous publications. Of this description are Campe, Salzman, André, Weiss, and a few others. The author of the volumes before us fills an honourable place among his earlier competitors. We find here a variety of pleasing descriptions or characteristic accounts of worthy and cheerful families, pictures of comic and tragic family-scenes, juvenile songs, and amusing narratives—all tending either to inculcate the imitation of noble and good moral actions, or to warn young people against the examples of rash and inconsistent conduct. Mr. Glatz possesses the rare talent of combining a plain and unaffected style with a masterly power of rousing the feelings in the youthful breast: while he entertains the imagination, he uniformly inculcates some essential moral duty. Hence we do not hesitate to assert, that this performance is well calculated for an English translation, and that it would form a valuable addition to the stock of a juvenile library.

Theorie der Sämmtlichen Religionsarten, &c. Theory of the collective Kinds of Religion; viz. of Fetishm, of Uranotheism, of Anthropo or Hero-theism, of Mono-theism, and of Moral Deism or Christianism: concisely represented by Dr. Heynig. 8vo. Leipzig. We know of no injury that can accrue to the Christian faith from the method which the author has adopted, in representing the progressive origin of the five principal religions prevailing in the world; but we cannot agree with the doctor when he is of opinion that philosophy and religion ought in every nation to be cultivated, not

conjointly but ſeparately, as objects which have no connexion with each other: indeed, this idea is repugnant to his own theory of the origin and progreſs of religion, according to obſervation and a cultivated uſe of the underſtanding. Nor do we think his advice with reſpect to religious innovation is well founded; for, if every thing were to be left in its old track, that is, if the different eſtabliſhments of church and ſtate were never to be reviſed, improved, corrected, or at leaſt modified according to the exigencies of the age, we muſt neceſſarily be perpetuating errors and prejudices, which have no other authorities than cuſtom and power to ſupport them; and, for ourſelves, inſtead of Chriſtianity, we ſhould ſtill be in poſſeſſion of Druidiſm. Independent of this conſideration, we acknowledge M. Heynig's extenſive erudition and hiſtorical knowledge relative to the ſubject of religion.

Magazin für Freunde des guten Geſchmacks. A Magazine devoted to the Friends of Taſte. Five volumes, 4to. Leipzig.—Of this expenſive collection a volume has appeared, annually, ſince the year 1796. It contains a great number and variety of plain and coloured plates, repreſenting chiefly ſubjects of ornamental gardening; ſuch as monuments to be erected in gardens, temples, grottos, &c. We find here great compliments paid to writers on Engliſh gardening, and eſpecially to our old friend Mr. Maſon, the late worthy precentor of York, from whoſe 'Eſſay on Deſign in Gardening' the editor has given ſeveral extracts; as well as from Repton's 'Sketches on Landſcape or Pictureſque Gardening.' But, while the Germans pay a juſt tribute to the taſte and judgement of our countrymen in hortular purſuits, it has not eſcaped their obſervation, that we have arrived at a degree of artificial minuteneſs ill according with the ſimplicity of nature, and promiſing little or no advantage whatſoever.

Kurzgefaſstes Lehrbuch der Moral, &c. Conciſe Elements of Ethics; or, an Introduction to Morals, calculated for Youth, by leading them to Reflexions on the different Relations, Concerns, Rights, and Duties of Man. By F. W. Wedag. 8vo. Leipzig.—According to the ideas of this author, true religion cannot ſubſiſt without a proper foundation of moral principles; becauſe a due ſenſe of the truths and doctrines of religion can alone be derived from ſuch a ſource: hence he has carefully ſeparated the doctrine of morals from that of religion. There is a promiſe to treat, in a ſecond volume, of the elementary principles of religion; but the author has paid the debt of nature ſince the publication of the performance before us. We truſt, however, he has prepared materials for the continuation of ſo uſeful and neceſſary a

work; as the ſpecimen already exhibited firmly convinces us, that few men are better qualified to perform this arduous taſk.

Blicke auf die Menſchliche Natur, &c. Views of Human Nature, in Imitation of La Bruyère and Rouſſeau. Two Fragments. Leipzig.—The author of theſe excellent ſketches, as we learn from the preface, is K. L. M. Müller; he may be juſtly ranked among the moſt judicious commentators upon the two French writers whom he has choſen as his model. His greateſt merit, however, conſiſts in that cool and diſpaſſionate ſpirit of reſearch, in which he checks and corrects, occaſionally, the extravagant ideas of others, eſpecially thoſe of La Bruyère, while his diction is perſpicuous and elegant.

Verſuch einer Syſtematiſchen Beſchreibung, &c. An Attempt towards a Syſtematic Deſcription of the different Species of Stone-fruit growing in Germany. By Dr. A. F. A. Diel, &c. In periodical Numbers. N° I. 12mo. Frankfurt.—A ſyſtematic pomology, drawn from the beſt ſources of nature. The principal and diſtinguiſhing characters of fruit, which the ingenious author conſiders as eſſential to his diviſion, are as follow:—1. Time of maturity and duration of the fruit: 2. Its external character; as, the red colour on the ſouthern ſide and its ſhades, the points, ſpots from the tree, ruſt-coloured cover, &c. 3. Size of the fruit: 4. Flower and ſtalk according to their indentation, excavation, and other peculiarities: 5. The capſula ſeminalis: 6. Flavour of the fruit, and its fleſhy pulp: 7. Colour and texture of the fleſh; and, 8. Vegetation of the tree. Dr. Diel divides all apple-trees into ſeven claſſes, and theſe again into different orders. His work deſerves the attention of botaniſts and gardeners.

Flora Europæa inchoata. The European Flora, commenced by J. J. Romer, M. D. Faſciculus V. Nürnberg.—This extenſive work was begun ſeveral years ago, and the learned author appears to make a very ſlow progreſs—perhaps employing his time to better advantage in the practice of his profeſſion.

Annales Typographici ab Artis inventæ Origine ad Annum MDXXXVI. continuati: Volumen Septimum. Opera Geo. Wolfg. Panzer, &c.—Of this ſplendid and claſſical work, we can only ſay, that it contains a treaſure of literary hiſtory, compiled with judgement, chiefly from the labours of Mattairius Denſius, and other learned men who have written on the ſubject it diſcuſſes.

DENMARK.

Plane zu Garten-anlagen, &c. Deſigns for planting Gardens in the Engliſh Taſte, together with Inſtructions for di-

viding them and forming ſmall Plantations. By J. L. Manſa, Royal Gardener at Fredericksburgh. Folio; with Plates.—If the definition be correct, that ornamental gardening conſiſts in the art of adapting every thing to local circumſtances, in order to produce the greateſt poſſible degree of pictureſque beauty, all engravings of taſteful gardens, however elegantly executed, can be of little advantage to the art itſelf, becauſe its aim is confined to the repreſentation of beautiful proſpects, which cannot be conceived from a plan or drawing on a plain ſurface. But even admitting the practicability of ſuch delineations, it muſt nevertheleſs be confeſſed that plantations which are extremely proper and correſponding to one ſituation never can ſerve as models for another place; becauſe each individual ſpot requires a peculiar arrangement. Although M. Manſa does not mention or point out theſe difficulties, yet we are fully aware of them: and, as all his plans are probably taken from real gardens, we can praiſe his ingenuity, and the induſtry diſplayed in this work ſo far only as relates to the accuracy and elegance of the plates.

Neueſtes Handbuch der Sternkunde, &c. A Manual of modern Aſtronomy, deſigned for the Uſe of Pupils and Amateurs. Extracted from the Daniſh Aſtronomical Catechiſm of Soeborg; new reviſed, with Additions and a Preface, by T. Bugge, Royal Daniſh Counſellor of Juſtice, and Profeſſor of Mathematics and Aſtronomy. Tranſlated, corrected, and accompanied with additional Remarks, by C. G. Zahlen. 8vo. with Plates. Copenhagen.—From this circumſtantial title of a work intended for popular readers, we expected to find in the book itſelf a compend of familiar aſtronomy in every reſpect unexceptionable. Indeed the tranſlator and reviſer of this publication have explained the moſt intereſting phænomena of the heavens in a conciſe and generally plain manner, well ſuited to inſtruct miſcellaneous readers, and to elicit, on many occaſions, ſublime and religious ideas. Among theſe, however, we cannot include the ſuperſtitious notions exhibited on the ſubject of eclipſes, which are ſaid to be attended with various calamities both to the natural and moral world, ſuch as diſeaſes, misfortunes, aſperſion of character, &c. Yet theſe conſtitute the chief value of the work in the opinion of the preſent editor; and ſhould we however be inclined to excuſe this ſpecies of human weakneſs, yet the ſcientific parts of the book itſelf are ſo little free from inaccuracy, that it can by no means be compared with ſimilar German works on the ſame ſubject. The author has nevertheleſs availed himſelf of the lateſt diſcoveries and obſervations of aſtronomers, which are inſerted in ſeparate notes, while he has often ſucceſsfully endeavoured to illuſtrate propoſitions and ideas that appeared to him too obſcure for popular readers; he has alſo reduced the whole to a regular

series of narration, instead of continuing each subject in the form of a dialogue, the mode in which it was originally published.

SWEDEN.

Kongl. Vetenskaps Academiens Nya Handlingar. New Transactions of the Royal Academy of the Sciences. Vol. XIX. for the Year 1798. 8vo; with Plates.—Of this important work the Swedish academicians publish separate parts every three months: we are obliged to state this circumstance, as we are at present only in possession of the fourth number. Its contents are as follow: 1. A few observations tending to illustrate the situation and climate of the city of Umea, a sea-port and emporium, as well as the residence of the lord-lieutenant of West-Bothnia, half a Swedish mile distant from the coast, and built on a level sand-bank formed by the sea, on the western shore of the Bothnic Gulf. Its latitude is 63° 50′, consequently 4° 29½′ farther northward than Stockholm. The soil about this place almost uniformly consists of sand, a species of glarea, covered with dwarfish needle timber. Crystalised sal Umense, so denominated from the city, and a species of vitriolated mineral alkali, mixed with magnesia, is found during a dry summer very freely in the adjoining fields and ditches. The intense cold and severity of this climate has of late years been considerably changed by colonial establishments, by grubbing up extensive forests, draining morasses, and an increased cultivation of arable and pasture land. The author of this memoir is D. A. Näzèn. 2. An extract from the meteorological journal kept at Umea, during the last six months of 1796. The mean height of the barometer was = + 14° 1′, and that of the thermometer, in the morning, = + 3, 4; at noon, + 6, 9; in the evening, + 3, 5. The greatest heat on the 18th of July was = 31° 3′; and the severest cold on the 26th of December = + 26, 0. 3. An extract from the meteorogical journal of the same place in 1797. The mean height of the barometer was = 25° 58″; the greatest heat on the 9th of June 23° 5, and the greatest cold = 22° 1. The barometer was 234 days above the freezing point, and 131 below it. 4. Mineralogical remarks on Gottland, with a petrographic map: by W. Hisinger. This island rises from sixty to one hundred Swedish ells above the level of the sea, and possesses upon the whole a plain flat surface, except a few tough and rugged mountains. It has a remarkable rivulet, which, running half a Swedish mile above ground, precipitates itself into a rocky cavern, and re-appears about three quarters of a mile afterwards. This stream produces the highest fall of water in the whole island, and affords important œconomical advantages, by supplying a

number of corn-mills, as well as water-works of other descriptions. Instead of inserting the dry mineralogical account of this insular country, we shall only observe, that the author has annexed to it a list of petrified plants and testaceous animals within its range. 5. Gymnotus Grillii, described by P. C. Lindroth, the discoverer of this curious fish, who named it after the late illustrious promoter of natural history, A. U. Grills. It was taken in the vicinity of Drontheim, measured nine Swedish ells, but was only fourteen inches broad, and weighed no less than nine lies-pounds. It is different from both species of this fish hitherto known, namely, the Gymnotus Hawkenii, described by Block, and the Gymnotus Ascanii: the former has caudam pinnatam semilunatam, pinna ventrali biradiata; the latter, caudam obtusam pinna dorsi caudali unita ventrali uniradiata; but the species now announced has caudam acuminatam, pinna caudali nulla, ventrali uniradiata. This marine fish is represented in a plate, though of a reduced size. 6. Dysphagia chronica à Bulimia orta; by Dr. Haggström. 7. Bucco atro-flavus, a new species of bird from Sierra Leona; described by A. Sparrman. Their specific difference from those of which we possess an account given by Latham, will appear from the following definition: 'Niger: linea supra et suboculari, jugulo pectoreque luteis, alis flavo-striatis, abdomine fusco. M. Levins, who is at present on a voyage to New Holland, has given a delineation of this bird of its natural size. 8. Extract from the meteorological journal kept on the observatory at Upsala, in 1798. By D. E. Holmquist. The mean height of the barometer was 25, 59; and of the thermometer, in the morning +3, 60, and in the evening, +9, 64.

Journal för Swenska Literatur. The Swedish Literary Journal. Edited at Stockholm, by G. A. Silfverstolpe.—Sweden, though a country which has produced many eminent characters in various departments of science, could not till lately boast of a critical review. A learned bookseller commenced a literary gazette at Stockholm, entitled 'Literatur Tidning,' in the year 1795; of this work four numbers were published annually; and it contained, besides the review of foreign books, original treatises on various subjects. The whole was ably conducted, and the criticisms were written with philological acumen; but, for reasons unknown to us, this periodical work concluded with the third volume in 1797. At length the present journal was undertaken by a society of men who appear to be lovers of truth and science, as they pronounce their opinion with candour, and support it with coo and solid arguments; not exhibiting the smallest degree of rancour and illiberality against any philosophic sect. Of this work, the first six quarterly numbers only are before us, and,

in noticing it, we shall content ourselves with recapitulating a few of the original Swedish productions, instead of repeating the titles of the foreign works here reviewed, most of which have already been mentioned in former numbers of our appendix; premising, however, the following list of modern Swedish authors and their works:—Poems, by Lidner, Adlerberth, and the count de Gyllenborg; another poem entitled 'The Prosperity of Sweden;' Fant's elementary View of History, designed for beginners; Tingstadius's Translation of Job; Tham's Remarks on a Journey; Adlersparre's Historical Collections; Hedin's Medical and Chirurgical Journal; The new Domestico-Economical Magazine; An Attempt towards a Translation of Tacitus; Von Aken's Account of the Institutions for extinguishing Fire; Orrelius's Dictionary for Merchants and Druggists; and Compendium of Natural Philosophy—both extremely defective works; Ekmansson's sketches of Penitentiary Sermons; Wahlin's Swedish History, for the use of Beginners; Letters on the Duties of an Historian; Paykull's Fauna Sueciæ Insecta—one of the most important publications of the present day; Wallquist's Manual of Church Preferments, together with the Remarks that have been published respecting them; Bjornlund's Materia Medica selecta (a very useful guide to beginners); Murray's Descriptio Arteriarum Corporis Humani in Tabulas redacta (a new edition improved and enlarged by the author, as the dissertations of Murray, contained in this work, were collectively printed at Leipzig in 1794); Letters written during a Journey in Sweden; Sparrman's useful and generally new Facts relative to Medicine, Pharmacy, Chemistry, &c. (this work is not much recommended by the Swedish reviewers); Blex's Philosophical Attempt to determine the Purpose for which Man is created, from his inherent Qualities (nor is this publication favourably reviewed); Collections relative to War, &c.—Without mentioning the single sermons and little school-books, or the inaugural dissertations published in the Swedish universities, we shall only remark that the chirurgical society of Stockholm, has, by order of the king, been abolished, and the medical college, on the contrary, been invested with more extensive powers, and furnished with additional instructions relative to surgery.

Läsning för Landtmän af et Sällskap, &c. Readings for Country People; by a Society. Three Numbers.

Läsning i Blandade ämnen. Miscellaneous Readings.—The latter of these publications is a continuation of the former, which concluded with the third number: both are written in a pleasing popular style, and may be read with advantage, not only by country people, but likewise by the inhabitants of towns and cities. Among the articles deserving attention in the

former, are—An essay on education and instruction, in harmony with nature and politics;—another, On liberty and equality, by Kant;—On happiness, by Ferguson (translated from the English);—On practical education in Denmark, being the greatest obstacle to national improvements, by Olsen;—Gens comme il faut, a satirical dialogue, &c.—It will appear from these few heads, that a great proportion of the work consists of translations from other languages; and we cannot on this occasion omit to remark, that most of the books at present published in Sweden are translated from the Danish, French, English, and especially from the German. The new series of these miscellaneous essays contains a much greater and more select number of original communications than the earlier attempt: and of these we now proceed to notice a few of those which occur in the first twelve numbers. 1. On the liberty of the press in Sweden, an attempt to ascertain its legal limits, as well the true meaning and just application of the laws enacted on this subject. 2. On improving and ennobling human reason; a defence of the expiring eighteenth century. 3. On agriculture in general, and the necessity of promoting it in Sweden, preferably to all other objects of trade. 4. The Jacobin in Greece; a satirical poem, addressed to certain philosophic enthusiasts who at present infest every country. 5. On the pleasure, value, and utility, of reading. 6. On the effect of what is called romantic; a sprightly satirical essay. 7. On calumny and praise. 8. On the secresy observed on political subjects, as well as useful mechanical inventions; chiefly alluding to the national debt of Sweden, and the state of her bank. 9. An inquiry into the necessity of instructing the public with regard to military affairs. Every number of this interesting journal also contains criticisms on a few books published in Sweden, among which those respecting Clarkson's Treatise on the Slave Trade, &c. translated from the English, and Kant's Elements of a metaphysical System of Morals, from the German, by Professor Boëthius, are, without exception, the most acute and instructive.

Electriska Kraftens märkvärdige, &c. On the remarkable Influence and Effect of the Electric Power in the Year 1797, and the probable causes of the Epidemic which then prevailed among Cats at Stockholm, &c.—In this interesting treatise, which fills only two sheets octavo, the anonymous author first treats of the influence of electricity in general, on man and objects surrounding him; then of its positive and negative state, or, as he expresses himself, of its powerful contraction (sammandraguing) and subsequent extension (utvidgning), as well as the phænomena attending these changes; and, lastly, he inquires into the proximate causes of the epidemic disease to which the cats of the Swedish metropolis were subject in the course of the above summer. He is of opinion, that the

power by which cats are enabled to diminiſh their bodies to half their ſize by contraction, is derived from electricity, and conſequently is connected with the electric motions of the air, fire, thunder-clouds, &c. Hence not only the thin muſcles and fibres of theſe animals, as ſtated by Abilgaard, but their whole frame is affected by ſudden or violent changes in the electricity of the atmoſphere, which produced all thoſe nervous ſymptoms at that time obſervable, and gradually deprived them of the digeſtive faculty, ſo that they were at length neither able to move nor to contract their formerly pliable fibres, and death neceſſarily followed.

Inledning tel Chemen, &c. Introduction to Chemiſtry, by J. Gadolin, Profeſſor of Chemiſtry at Abo. 8vo. 1798.—This introduction is on the plan, and in part a tranſlation, of Fourcroy's Philoſophy of Chemiſtry; but with ſome additions and various alterations, particularly in the nomenclature. It is remarkable, that M. Gadolin, who could know nothing of the diſcovery of M. Vauquelin, at the time this introduction was printed, ſhould mention an eighth kind of earth, which he calls Ytterjord, the earth of Ytterby. It reſembles, he ſays, the zercone; and communicates, like this laſt earth, a ſweet taſte to the acids with which it is combined. He remarks, that it has been hitherto only found in the form of a black heavy ſtone, in ſome pieces of felſpar, at Ytterby in Roſalgia.

EAST-INDIES.

A Grammar of the Hinduſtanee Language. By John Gilchriſt. 4to. Calcutta.—This work forms part of Mr. Gilchriſt's Syſtem of Hinduſtanee Philology; and is now ſold at Calcutta, bound up with his Oriental Linguiſt, of which our next article gives ſome account. The ſkill of this gentleman in the language of India ſufficiently appears from his former moſt uſeful and excellent publication, the Engliſh and Hinduſtanee Dictionary, in two quarto volumes,—a work which entitles its author to the praiſe of every Orientaliſt, and which, we truſt, will gain him as much profit as it has already procured him reputation. Of the rules laid down in the grammar before us, and of our author's plan and method, it will be ſufficient here to obſerve, that they are ſuch as we ſhould expect from one ſo perfectly maſter of his ſubject. He has diverſified his pages with curious and pleaſing extracts from the poets of Hinduſtan and of Perſia; and has added ſome ingenious remarks on Eaſtern muſic, of which ſome ſpecimens are given. He has ſubjoined engraved plates repreſenting the Indian horal diagram and ecliptic, together with many other curious articles.

We ſhall extract a few paſſages from the Indian poets

whom Mr. Gilchrist quotes in illustration of his grammatical rules.

'The mole on a fair face steals my heart away, as thieves plunder the city even in moonlight nights.—Whose plaint is this, O *Yuqueen!* that makes the clouds dissolve into tears, the blackbirds sing notes of woe, and the peacocks responsive with doleful cries?'—

—'What shall I do, O preacher! with a bowl from the damsels of paradise, who am here intoxicated with the wanton eye of every one?'—

—'The flame of divine love ascended, and a spark mounted to the skies:—it is now his, whose it formerly was, being a part of him.'—

—'If you wish to see the truth, continue cleaning the mirror of your mind; for, should it prove obscure, whence wilt thou learn real knowledge?'—

—'To be closed with tranquil slumbers, in the dreary night of absence, O Fighan! is what cannot have happened to the eyes of any one: Then how didst thou behold thy charmer in a dream, and how could'st thou sleep without her?'—

—'The vernal months are at hand: Lo! the trees are beginning to bring forth their leaves and embryo trains, while my blossoms of hope are, alas! more than ever drooping to decay.'—

—'Trouble not thyself, O damsel! with arched eyebrows, about a bow and quiver, when one look is enough to kill thy admirer.'—

The Oriental Linguist, an easy and familiar Introduction to the popular Language of Hindustan (vulgarly, but improperly, called the Moor's). Calcutta. 4to. 1798.—To Mr. Gilchrist, the ingenious author of the grammar above-mentioned, and of the celebrated Hindustanee dictionary, we are indebted for the valuable work before us, which contains the rudiments of the Indian dialect, improperly, as he remarks, called Moor's; a copious and excellent vocabulary, English and Hindustanee, and Hindustanee and English; various amusing and interesting tales in both languages; dialogues likewise in both; a translation of the articles of war, for the use of the Company's military servants; a collection of Hindustanee odes and poems; and some Indian tunes set to music. This publication, with the foregoing dictionary and grammar, forms the complete body of Hindustanee philology in three volumes,—a work so highly beneficial to young gentlemen who wish to qualify themselves for the East-India Company's service, that any enterprising bookseller, who should import from Calcutta a considerable number of copies (if any yet remain for sale), could not fail to derive proportionate emolument, by vending them in this country.

A REVIEW

OF

PUBLIC AFFAIRS,

FROM

the Beginning of MAY to the End of AUGUST, 1800.

GREAT-BRITAIN.

THE vigor of hoſtility, and the animoſity of conteſt, have not declined between the great rival powers ſince the refuſal of the Britiſh court to negotiate with the enemy. The rage of war, *ſcelerata inſania belli*, has not yet ceaſed to exert its influence. An opportunity of effective negotiation, in the opinion of our cabinet, has not occurred; and nothing, it is affirmed, can ſecure an honorable peace but a continuance of vigorous exertion.

While the directors of the affairs of Great-Britain were planning new expeditions, the parliament attended not only to thoſe financial arrangements which were calculated to provide for the exigencies of the war, but to other concerns of national policy and general legiſlation. The tax upon income not being found ſufficiently productive, the commons prepared a bill which, they thought, would more effectually preclude evaſion, and raiſe the produce to the

amount of the estimate. This bill met with some opposition on various grounds, but chiefly because it affected the farmers: it was, however, honored with the assent of the legislature. Another financial discussion occurred, when Mr. Pitt moved for the loan of money to the emperor, and for other supplies. Mr. Tierney condemned the idea of purchasing the aid of continental princes; Mr. Canning defended the court; and Mr. Nichol, while he urged the necessity of a speedy pacification, acquiesced in a demand which seemed to him to be prudent and justifiable, as it might tend to accelerate such an event.

Among the motions which excited the attention of the house without being successful, were two that deserve a cursory mention. Mr. Johnes, having severely stigmatised the conduct of Mr. Pitt and his associates, proposed an address, conjuring his majesty to dismiss those ministers by whose advice he had refused to negotiate with the French republic, and soliciting a declaration of his willingness to treat with the enemy. As Mr. Pitt refused to enter into a renewed discussion of a subject which had so frequently been agitated, some of the minor orators amused themselves with attempting to answer the arguments for peace. Among these speakers were lord Hawkesbury and Mr. Windham, the latter of whom asserted, that peace was sometimes an evil of greater extent than war, and that, if hostilities should cease, a new species of war might be apprehended, arising from inroads in sentiment, by which the greatest calamities might be produced. Sir William Pulteney replied to the secretary at war, and declared his conviction that peace was absolutely necessary to save the country from ruin. The majority, however, did not so determine.—On a subsequent day, Mr. Western, another enemy to the war, moved for an investigation of the grounds by which a continuance of it could be justified, and for an inquiry into the actual state of affairs. Mr. Wilberforce opposed the motion as highly improper; Mr. Windham resisted it in a speech which contained some ludicrous allusions; Mr. Sheridan recommended the inquiry with his accustomed spirit; the eloquence of the solicitor-general (sir William Grant) was adverse to the proposition.

No bill of the ſeſſion was more ſtrongly conteſted than that which related to the coercion of adultery. Its chief proviſions were, that the offence ſhould be puniſhed by fine or impriſonment, and that the adulterer ſhould not marry the adultereſs. Lord Auckland expatiated on the neceſſity of adopting this bill, as it promiſed to be a conſiderable check on an increaſing vice. The earls of Weſtmorland and Carliſle ſignified their diſapprobation of the bill, not becauſe they were advocates for adultery, but becauſe they were of opinion that the new regulations were of an oppreſſive nature, and were not calculated to redreſs the grievance in queſtion, or promote the intereſts of morality. The duke of Clarence alſo cenſured the ſeverity of the bill, which, on the other hand, was vindicated by lord Eldon and the biſhop of Rocheſter. Lord Mulgrave differed from the prelate in the expoſition of ſome ſcriptural paſſages; but lord Grenville ridiculed the attempt of a laic peer to inſtruct one of the heads of the church, and declared that his regard for morality induced him to patroniſe the bill; which, being ſupported by the greater part of the houſe, was ſent to the commons for their aſſent. It was reprobated as injudicious and abſurd by Mr. Sheridan and other members, and rejected by a majority of 39. Though we do not wholly approve this bill, we conſider the motives of its advocates as laudable, and yet cannot accuſe its opponents of having evinced, in their mode of attack, a diſregard to morality.

An attempt was made by the humanity of ſir Francis Burdet Jones to prevent, by parliamentary interpoſition, the ill treatment of the priſoners in the houſe of correction for Middleſex. When he had ſtated, from the evidence of inſpectors, various acts of arbitrary rigor, an addreſs was voted, praying that the king would give orders for an inquiry into the ſtate and management of that priſon.

During the ſeſſion, Hadfield, whoſe attempt againſt the life of our ſovereign we mentioned in our laſt hiſtorical ſurvey, was tried in the court of King's-bench for high treaſon. By the evidence adduced it was proved that he had been for ſome years inſane, chiefly in conſequence of wounds received in his head. He was therefore acquitted,

but not discharged, as the liberty of such a lunatic would be dangerous to society.

When the completion of the public business authorised a prorogation, his majesty, on the 29th of July, applauded the general conduct of the two houses, expressed his peculiar satisfaction at the success of the steps which they had taken for effecting an incorporative union between the kingdoms of Great-Britain and Ireland, and (imitating the language of queen Anne, at the completion of the Scotish union) declared that he should ever consider it as the happiest event of his reign.

The parliament had not long been prorogued, when apprehensions of tumult and riot alarmed the inhabitants of the capital. On the 14th of August, the prisoners in the house of correction, rendered impatient, perhaps, by the late consideration of their concerns, exhibited symptoms of turbulence, and a desire of escaping from their confinement. They refused to submit in the evening to the usual closure of their cells; and, when they had been compelled to give way in this point, they uttered loud cries, complaining of the miseries to which they were subjected. These clamors drew a multitude of people to the walls of the prison; and it was apprehended that the mob would attempt to release the prisoners. Aris, the keeper, sallied out at this crisis, and procured the aid of some peace-officers for the defence of his post. The volunteers of Clerkenwell, those of the parish of St. Sepulchre, and of other districts, repaired to the prison to assist in quelling the disturbance; and peace and order were at length restored.

From the exorbitant price of bread and other necessaries of life, the peaceful part of the community had greater reason to dread the ebullitions of tumult. As a diminution of the price was prevented, in a great measure, by the avarice and the arts of forestallers and regraters, Mr. Rusby and others were punished for such offences; but the discontent of the people was not sufficiently allayed by these prosecutions. The pressure became so intolerable, that, in various parts of the country, many of the inhabitants endeavoured to procure, by intimidation and force, a reduction

of the price of corn and other articles of consumption. On these occasions, some depredations and outrages were committed; but the appearance of military parties checked the progress of riot. As it is not necessary to mention every place that was a scene of disturbance, we will only give an account of the riots at Birmingham before we particularise those of London. On the 8th of September, the shops of the bakers at the former town were attacked by the populace, and those who refused to sell their bread at a low rate were insulted and robbed. The next day a steam-mill was the chief object of attack. Its defenders having wounded some of the assailants or spectators by firing blunderbusses, it would probably have been destroyed, if a party of dragoons had not opportunely arrived. On the 10th, in the evening, the soldiers who paraded the streets were annoyed with stones by the mob; but these marks of discontent gradually declined.

The disturbances in London commenced on the 15th of September. Inflammatory bills had been posted on the monument, urging the people to rescue themselves from famine by their own exertions, and to take vengeance on monopolists and forestallers. In the morning, a mob appeared in Mark-lane, insulted the dealers in corn, and clamorously demanded an abatement of the price of that commodity. The chief magistrate addressed the most forward of the populace, and intimated to them, that their turbulence would aggravate the evil of which they complained. Finding his persuasions of retreat fruitless, he ordered the act against riots to be read; and, without military aid, tranquillity was restored for a time by the civil power. The riot being renewed in the evening, the deputy-marshal and some of the constables received severe blows; but the volunteers who attended were not ordered to fire, as the chief magistrate thought that such violence might be deemed rash and inhuman. On several succeeding days, riotous assemblies disturbed different parts of the city; but the ready attendance of the volunteers, and their firmness of countenance, alarmed the populace, and, without the actual use of fire-arms, repressed the commotions.

While we lament the miseries of the poor, we would earnestly dissuade them from all seditious practices. Let them submit to the ruling powers, and wait the effect of those measures which the benevolent members of the community are now pursuing for the exposure and punishment of avaricious monopolists, and for the full supply of the markets: or, if they should be unable to support themselves in the mean time by their own efforts, let them demand parochial assistance. Turbulence and riot may endanger their lives, without promoting their views of relief.

Passing from these scenes of internal commotion, we proceed to take notice of the late naval exploits of our countrymen, of the expeditions to the coasts of France and Spain, and the western coast of Africa. A squadron under the command of sir Edward Pellew sailed with troops on board towards the coast of Bretagne; and, on the 4th of June, some of the vessels attacked the south-west end of the peninsula of Quiberon, silenced the forts, and cleared the shore of the enemy. A party of soldiers then landed and destroyed the forts. An attack was afterwards made on various posts; and six brigs, sloops, and gun-vessels, were taken, a corvette burned, and a fort dismantled.

This success was soon followed by an interception of supplies destined for the use of the fleet at Brest. Eight boats were employed in this service, under lieutenant Burke and other officers, who, amidst a severe fire of cannon and musquetry, took three armed vessels and eight laden with provisions, and drove others upon the rocks near St. Croix. Some of the enemy's ships having escaped to Quimper river, boats were sent on the 23d of June to attack them; but they removed to an inaccessible distance up the river. Two parties of marines, however, disembarked, and blew up a battery and other fortifications. Lieutenant Burke was afterwards sent to Bourneuf-bay, to attack vessels that were moored in a strong position. Five were captured, besides fifteen mercantile ships; but the impracticability of bringing them out induced the captors to burn them. It unfortunately happened, that the boats, in returning, struck upon the sand-banks, and above ninety men became prisoners.

The intelligence of the reduction of the African iſle of Goree, which arrived not long after the report of ſome of the enterpriſes on the French coaſt, gave greater ſatisfaction to the public. Sir Charles Hamilton making his appearance with a ſmall ſquadron near Goree, the governor thought proper to ſurrender; and a Britiſh garriſon took immediate poſſeſſion of the forts, and of Jool, a dependent factory.

An attempt was made, on the 8th of July, to take or deſtroy four frigates in the road of Dunkirk. Captain Campbell, of the Dart, attacked La Deſirée, and quickly added her to the Britiſh navy; but the three other ſhips eſcaped, though not before they had received conſiderable damage.

Of a fleet which ſailed in Auguſt on a ſecret expedition, the command was given to ſir John Borlaſe Warren; and ſir James Pulteney had the direction of the military force. To aim at the conqueſt of Belle-iſle is ſuppoſed to have been a part of the inſtructions given to the two commanders; but the works by which the French had provided for the ſecurity of that iſland deterred their adverſaries from the attempt. The armament therefore proceeded to the coaſt of Spain, and, on the 25th of Auguſt, arrived before the harbour of Ferrol. The troops landed without oppoſition, and advanced towards the heights which overlook the port. A body of Spaniards then appeared, and a ſkirmiſh enſued, which terminated in favor of the invaders, though lieutenant-colonel Stewart, who commanded the corps of Britiſh combatants, was wounded. The next morning another engagement occurred, in which the Spaniards were defeated. About 100 of their number were killed or wounded: fewer individuals ſuffered on the part of the Engliſh, who were now in poſſeſſion of the commanding eminences. The opportunity of ſurvey thus afforded to the general did not give him any hope of ſucceſs, particularly when he learned, from the reports of priſoners, that the place was well furniſhed with the means of defence. He therefore ordered the troops to re-embark; and they were not moleſted by the enemy in their retreat. In the gazette of Madrid, a pompous account is given of this affair, in a curious ſtyle of ex-

aggeration and *hyperbolè;* but it is not neceffary to contraft the particulars with the official narrative publifhed in this country.

IRELAND.

The Irifh parliament, in May laft, entered into a renewed difcuffion of the articles of union, but chiefly attended to the alterations which had been made in them by the legiflature of Great-Britain. Lord Caftlereagh ably anfwered the objections of various fpeakers; a bill was at length enacted for carrying the refolutions into effect; and, on the 2d of Auguft, the lord-lieutenant clofed the feffion with an appropriate fpeech.

The clamours againft the union are lefs loud and general than they were at the beginning of the feffion. Many of its adverfaries, fenfible of the inefficacy of complaint, have ceafed to murmur at the lofs of the independence of the realm; while others have, in confequence of mature deliberation, brought their minds to a conviction of the probable utility of the fcheme. Some of the towns of Ireland may for a time be injured by the meafure; but, if the whole kingdom fhould derive great advantage from the incorporation, partial evil will weigh lightly in the balance.

FRANCE.

Notwithftanding the volatility of the French and the late frequency of revolutions in their country, the confular fettlement remains unchanged. The chief conful retains his power and popularity: he rules the nation with fovereign fway, mingles rigour with lenity, overawes fome, and conciliates others. His temporary abfence from the capital alarmed many of his friends with a dread of the decline of his influence; but his enemies were unable to effect any change to his prejudice.

The danger to which the French were expofed in the north of Italy, and the defire of fignalifing his new dignity by the luftre of military exploits, induced Bonaparte to affume the perfonal command of the army of referve. While he was preparing for the expedition, the French in Genoa

were expofed to a general attack on the 30th of April. They could not prevent the Auftrians, who were affifted by lord Keith's fquadron, from obtaining fome advantages during the day; but, at night, they regained all the pofts from which they had been diflodged. On the fecond of May, they made a furious fally on general Ott's centre at Seftri, and did not retire before they had loft a confiderable number of men. They fuftained no fmall lofs on other occafions, and were reduced to great diftrefs by the vigilance of the Englifh, who intercepted by fea the fupplies intended for the garrifon. On the 6th, the Col de Tende, and other pofts occupied by the French under Suchet, were forced by the Auftrians, who profecuted their fuccefs with fuch vigour, that they drove the enemy beyond the Var. The citadel of Savona was reduced by a blockade to the neceffity of furrendering; and at length Maffena was conftrained, on the 5th of June, to capitulate for the evacuation of Genoa.

The French did not gratify their adverfaries with a long interval of exultation. Berthier advanced with the army of referve, croffed the lofty mountain of St. Bernard, and repelled a body of the enemy at Aofta. Ivrea was reduced by general Lannes, who alfo, on the 26th of May, defeated the Auftrians near the Chiufella, while Turreau met with fuccefs at Sufa. At Chivaffo the chief conful joined the army, and animated, by laconic fpeeches, thofe whom he confidently hoped to lead to victory.

The progrefs of the republican hoft was rapid and fuccefsful. The city of Milan was re-taken with facility; Pavia and other towns were again brought under the French yoke; and the Auftrians were on the point of lofing the brilliant advantages of the campaign of 1799. On the 9th of June, an important conflict took place near Cafteggio. The generals Lannes, Watrin, and Victor, had the chief conduct of the operations in this battle; and the exertions of the French, after a conteft nearly of nine hours, were productive of victory. About 1500 of the Auftrians were killed or wounded, and 4000 were made prifoners. Bonaparte was not prefent on this occafion; but, in a battle which foon followed, he was perfonally concerned. Eager to contend in a

general engagement, he haſtened to that part of the Milaneſe where Melas had aſſembled his forces. The Auſtrian commander did not endeavour to avoid an engagement. On the 14th of June his army paſſed the Bormida at day-break, and advanced in three lines to an attack. The French advanced guard, conducted by Gardanne, defended itſelf with ſpirit. General Victor, who commanded a conſiderable part of the army, was expoſed to a vigorous attack, which obliged him to give way; but he ſoon returned to the charge. Kellerman's brigade ſeconded his exertions, and fought bravely on his left, while the corps of general Lannes contended on his right. Marengo, a village near Aleſſandria, was aſſaulted and defended with great courage; and other poſts were ſucceſſively gained and loſt. By the ſtrenuous efforts of the Auſtrians, Lannes was in danger of being overpowered, when a freſh corps marched to his relief. He was again repelled, and enabled by the approach of Bonaparte to effect his retreat. The Auſtrians, having repulſed other diviſions, began to conſider the victory as inclining to their ſide. A ſtrong body of cavalry, ſupported by light artillery, preſſed upon the French right, which the grenadiers of the conſular guard endeavoured to defend. When theſe were on the point of retreating, Monnier led a corps to their aid; but he could not effectually ſupport them.

When this memorable engagement had continued about eight hours, the French were retiring, without hope of victory, and the Auſtrians were advancing into the plains of St. Julien, where a body of reſerve, commanded by Deſaix, an officer who had diſtinguiſhed himſelf in Egypt, waited their approach. The chief conſul took this opportunity of rallying many of the fugitives; and Deſaix charged with ſuch alertneſs and impetuoſity, that the Auſtrians were confounded and repelled, though they mortally wounded the general who thus attacked them. Melas was at this time ſo haraſſed by the fatigues of the day, that he could not exert himſelf with effect. He ordered general Zach to charge without delay; but Kellerman, with a body of horſe, made ſo fierce an aſſault, that he defeated Zach's diviſion, and was gratified with numerous priſoners, one of whom was the general.

The victory, however, was not yet decided. The Auſtrians had ſtill a reſpectable force, with which they might have made a formidable reſiſtance; but Lannes and Watrin ruſhed with their diviſions upon the foe, and, being well ſupported, completed the victory of the republicans.

If we may give credit to the account which Berthier ſent to Paris, 3000 of the vanquiſhed loſt their lives on this ſanguinary day, 5000 were wounded, and 7000 became captives; but, as the French are too prone to falſification, we are more inclined to adopt the ſtatements of the Vienna gazette, by which the killed, wounded and priſoners, are repreſented as having amounted to 9069 (5274 of the number being captives). The French admit that 1100 of their countrymen were made priſoners; the Auſtrians ſay 2600. The number of the killed and wounded in the victorious army did not, according to Berthier, exceed 2800; but we may, on ſtrong grounds, extend the calculation beyond 4000.

The conſequences of this victory were highly favourable to the French. General Melas was ſo depreſſed by the defeat, that, without waiting for orders from his court, he ſent an officer to propoſe terms to the enemy; and a convention was quickly adjuſted, importing that there ſhould be a ſuſpenſion of hoſtilities in Italy; that the citadels of Milan and Turin, and many others, ſhould be delivered up to the French before the end of June; and that Genoa, which the Auſtrians had with ſuch difficulty recovered, ſhould alſo be yielded to the enemy.

While the armies were contending beyond the Alps, the war was not wholly neglected in Germany, though it was proſecuted with leſs ſpirit. After the battle of Moſkirch, the French ſo cloſely watched the movements of general Kray, as to meet with an opportunity of attacking his advanced poſts, on the 9th of May, at Biberach. The aſſailants had the advantage on this occaſion; but, on the 11th, in an action near Memmingen, they were leſs ſucceſsful. Kray now retired to Ulm, where he was conſiderably re-enforced; but he and Moreau for ſome weeks contented themſelves with mutual obſervation, while terror and conſternation prevailed throughout the circle of Suabia. On the 5th of June,

Kray, imagining that he had an opportunity of gaining a considerable advantage, attacked the left of the enemy. He was so bravely opposed, however, by general Richepanse, and other officers who had been well instructed by Moreau, that he was obliged to retreat with precipitation. Being particularly desirous of dislodging him from his post near Ulm, the French resolved to pass the Danube below that city, that, by separating him from his magazines at Donawert and Ratisbon, they might compel him to risque another engagement. They obtained possession of the bridge of Hochstadt, seised various posts near the river, captured many battalions, and drove their adversaries from Ulm. Several battles followed, in which the advantage seems to have been gained by Moreau, who now levied contributions in the Bavarian territories, and deprived the elector of his capital. These hostilities, on the 15th of July, gave way to an armistice; and this truce led to a negotiation, which was conducted on the part of the emperor by the count de St. Julien, who, on the 28th of July, signed preliminaries of peace. As these were long concealed from the public curiosity, many absurd reports arose on the subject; but they are now published; and it appears that they are founded on the treaty of the year 1797, without containing those very unreasonable demands which they were supposed to include.

To improve the preliminaries into a definitive treaty, both parties negotiated for several weeks. The emperor wished to include the British nation in the treaty; and a temporary correspondence was opened between the republic and our court; but it has not been productive of a formal negotiation.

Of the state of parties in France, we will briefly speak before we close this article. The jacobins are displeased at the indulgence of the government to the emigrants, and at the toleration of the catholic religion. There are at the same time a great number of republicans, who, without being anarchists, condemn the consular system as too monarchical. The friends of moderation are pleased at the apparent impartiality of the chief consul, as they would wish to sacrifice the animosities of party at the shrine of concord.

GERMANY.

The northern parts of this empire are free from the calamities of war; but the southern parts have severely suffered by the collision of arms, and the rapacity of the invaders. The king of Prussia observes the storm without endeavouring to allay its fury, and continues on amicable terms with the disturbers of the peace of Germany.

The emperor, being pressed by the British court to accept fresh pecuniary supplies, concluded a treaty on the 20th of June, by which he became indebted to our sovereign in the sum of two millions sterling, not liable to interest before the expiration of six months from the adjustment of a peace between him and the French. It was also stipulated, that the war should be carried on with all possible vigor.

The negotiations with the French not being successful, the emperor, on the 6th of September, issued a proclamation which announced the rupture of the armistice. He affirmed that, though he had omitted no means in his power for procuring a solid and durable peace, the French government had, without sufficient cause, declared the truce to be at an end; and that, therefore, he intended to repair in person, with the archduke John, to the seat of war, being at the same time disposed to agree to such terms of pacification as might be deemed fair and honourable.

DENMARK.

The Danish court had long been displeased at the right which the English claimed of searching all neutral ships; and, after frequent murmurs, it was resolved that the claim in certain cases should be resisted. On the 25th of July, a frigate, having six mercantile ships under her convoy, was met near Ostend by a British squadron, and a boat was sent from one of our ships to make the usual search; but the captain of the frigate refused to suffer such a visitation, alleging that the vessels had nothing contraband on board; and, when the English commander insisted on the demand, the former fired a shot a-head of the boat. A broadside was im-

mediately given in return, by which two Danes were wounded. The frigate now maintained a conflict with several of the British vessels; and some lives were lost on both sides. The Dane, being overpowered, struck his flag; and the ships that were under his care were brought into the Downs.

As the probable formation of a northern alliance to the prejudice of Great-Britain had been a frequent topic of political discourse, it was apprehended that this incident might lead to an extension of the war. To prevent such a result, lord Whitworth was commissioned to treat with the court of Denmark; and a convention was adjusted near the end of August, providing for the restitution of the ships and the payment of a sum of money by way of indemnification, precluding traders from the protection of a convoy, except in the Mediterranean (where the piracies of the Barbary states render it necessary), permitting for the present the usual search, and reserving the final settlement of the dispute to another opportunity.

The grand point of dispute is, whether trading vessels, sailing under the convoy of a royal or national navy, shall be searched as well as those ships which have not the public flag to protect them. The question involves this difficulty. If mercantile ships should be suffered to escape visitation from having a convoy, they may convey to an enemy all kinds of warlike stores, and thus greatly injure a nation which is not hostile. On the other hand it may be contended, that the flag ought to secure the merchandise, by making it public rather than private property. The advocates for the general search may say, that, if we could always depend on the honour of a particular government, ships under convoy might be excused from the degradation of a search; but, as we may be deceived by plausible pretences, a visitation is the only true criterion in this case. We think, however, that candour requires an acquiescence in the declarations of naval officers acting under a royal flag or under national authority.

RUSSIA.

The capricious politics of the Russian sovereign have given disgust to the courts with which he so lately formed an

alliance. Their persuasions and remonstrances have not prevailed upon him to re-engage in the contest: he treats our cabinet with indifference, if not with insult, and seems inclined to form an armed neutrality, which may check the maritime triumphs of Great-Britain.

SWITZERLAND.

Under the auspices of Bonaparte, the government of the Helvetic republic has assumed a form resembling, though not exactly agreeing with, the consular system of France. On the 7th of August, the grand council resolved, that the two legislative assemblies should be reduced to one, consisting of forty-three members, and that the new assembly should select seven of its members to form an executive body. The senate made some opposition to these proposals; but the executive faction triumphed over all resistance. Such is the instability of the governments framed by French revolutionists.

ITALY.

The French have not prevented the new pope from taking possession of the see of Rome. The Austrians having delivered up to him a great part of the ecclesiastical state; he began, in July, to exercise the functions of sovereignty; and he governs with dignity and moderation.

When the French again obtained possession of the Milanese, they re-organised the Cisalpine republic as a free and independent nation; declared the laws and regulations of the late Austrian government in that country null and void; invited the return of those who had left their homes on account of the unsettled state of affairs; promised to respect private property; and professed an intention of maintaining the catholic religion in the same state in which it was at the time of the first conquest of the country by the modern revolutionists. Some politicians supposed that Bonaparte would restore Piedmont to the king of Sardinia; but he has not shown himself more inclined than the emperor was to do such an act of justice. The chief authority in that country

has been delegated to a committee, or rather to the resident minister of the French republic.

EGYPT.

As soon as it was known in England that proposals had been made to the Turks by the French in Egypt for the safe retreat of the latter, the British ministry, apprehensive of danger from the return of such an army, and wishing that it might become a striking example of disappointed ambition and injustice, sent an order to lord Keith not to ratify any convention of that nature. A dispute arose on this head between general Kleber and lord Keith, the latter declaring that he would not suffer the French to pass unmolested. The grand vizir, having taken possession of many posts which the enemy had evacuated, demanded the immediate surrender of Cairo; but Kleber, alleging that the English were hostile to the agreement, refused to deprive his endangered army of so important a station, and gave notice of his intention of renewing the war. On the 18th of March, he attacked a body of Turks, and put them to the rout: he then engaged the grand army, and obtained a complete victory.

When it appeared that the convention had been sanctioned by sir Sidney Smith, our court, though not pleased at his conduct in protecting an enemy whom he might have crushed, sent orders for a ratification of the agreement: Kleber now consented to a revival of the treaty; and it was expected that he and his countrymen would speedily take the benefit of it. But, on the 14th of June, he was assassinated by a fanatic who had been sent from Gaza for that purpose by the aga of the janizaries. His obsequies were celebrated with great pomp, his merits were blazoned in a funeral oration pronounced by Fourier; and the assassin was justly punished with death. Menou succeeded to the command; and it is supposed that he will endeavour to retain possession of the country.

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